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Confederate Richmond: A City's Call to Arms

A thesis in partial fulfillment of the requirements for the degree of Master of Arts at Virginia Commonwealth University.

by

Tucker L. Modesitt
Master of Arts
Virginia Commonwealth University, 2015

Director: Dr. John Kneebone, Department Chair and Associate Professor, History Department

Virginia Commonwealth University
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Abstract

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Tucker L. Modesitt, Master of Arts

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This work mainly focuses on putting the laborers of the Richmond Armory and the Tredegar Iron Works into the context of Civil War Richmond by focusing on their skills, backgrounds, and loyalties throughout the conflict. It highlights the similarities and differences between the two institutions and the legacies that they left behind in the years following the war. It also sheds light on some of the problems facing the Confederacy during the course of the war and its struggle to procure arms.

CONFEDERATE RICHMOND: A CITY'S CALL TO ARMS

INTRODUCTION

Much has been written about the city of Richmond and its years as the Confederate capital however the majority of these writings emphasize the city in a political sense, or as a besieged Union target, with scant attention being paid to Richmonders as citizens within the city. When it comes to Richmond's wartime industry, existing works seem to take two separate approaches. One approach being the casual mention of the Richmond Armory or the Tredegar Iron Works in the larger context of a city strained by the toll of war, and the other being micro-histories of the manufactories that rely heavily on specific numbers (orders, contracts, output, etc.) with no real attention given to the people engaged in the work. In essence, the Armory and the Iron Works either have minor roles in Richmond's history or the history is only about the facilities themselves and not in the greater context of Richmond.

This study will focus on the two main Richmond manufactories, Joseph R. Anderson's Tredegar Iron Works and the Richmond Armory. Both contributed significantly to the CSA war effort, with the Tredegar mainly producing cannon and larger armament, and the Richmond Armory, small arms used in the field. Both of these enterprises have been documented extensively, notably by Charles B. Drew in his 1966 book *Ironmaker to the Confederacy: Joseph R. Anderson and the Tredegar Iron Works* and by Paul J. Davies in his brilliant *C.S. Armory, Richmond*, published in 2000. Despite being "bibles" on their respective subjects, both are somewhat narrow in focus. Through these two works as well as other sources, both primary and secondary, I want to expand their accounts of Richmond's military contribution to the Confederate war effort by putting these manufactories in the context of the city of Richmond and

by examining the people who managed and worked in these facilities. These individuals link the Armory and the Tredegar with the city through their ways of life, where they were from, how they lived, and how they interacted during the dangerous time of the Civil War. It is difficult to understand these two facilities in the context of Richmond without exploring the people who worked within their walls. Some of these are so-called “labor aristocrats,” those who possessed a certain skill and were valuable as specialized artisans and others as more general laborers.

Richmond

Long before the clashes of the Civil War, Native Americans and later, Europeans decided that the falls of the James River would be a suitable place for a settlement. The falls prevented vessels from traveling upriver without portage thus creating a center for trade and what would become equally significant, water power. “As the young republic rose from the flames of revolution, river power drove the mills that turned wheat, corn, cotton and iron into the products and profits in the beginning of this country’s industrial revolution.”¹

The initial plot of land that would become the city was mapped out in 1737, and, by 1780, the latter part of the American Revolution, the state legislature moved the capital from Williamsburg to Richmond in hope of putting itself out of range of the powerful British warships that scoured the rivers around the Chesapeake Bay. Governor Thomas Jefferson favored the move as it would “orient Virginia to the West, which Jefferson viewed as the state’s future. Moreover, moving the capital to Richmond would create a clean architectural slate, leaving behind the relics of royalism in Williamsburg.”² Richmond’s original plot, below the falls,

¹ Bob Deans. *The River Where America Began* (New York: Rowman & Littlefield, 2007), 5.

² Michael Kranish. *Flight From Monticello: Thomas Jefferson at War* (Oxford: Oxford University Press, 2011), 122-123.

included what is today the eastern neighborhood of Church Hill, which overlooked the busy streets below along Shockoe Creek to Rockett's Landing where cargoes of all types were loaded and unloaded for shipment up and down the James River. With its connections east down river to the Chesapeake Bay, and west, by canal, to Lynchburg and beyond, Richmond was a major trading center. By the mid-19th century Richmond was also one of the most significant industrial cities in the American South and remained the seat of Virginia's government. The city, with its strategic location and its valuable water power was a blessing for production as well as a curse as the Civil War would prove.

John Brown's raid on the federal arsenal at Harper's Ferry in 1859 and the election of Abraham Lincoln the following year fractured the young nation. In December 1860 South Carolina seceded from the U.S., and seven other states followed over the course of the next few months. Virginia governor John Letcher attempted to quell calls for secession and remain loyal to the Union while also feeling sympathetic to the seceding states.

He affirmed the right of secession but criticized South Carolina for splitting away independently. He balked at calls for a state convention to consider the issue. Believing the emergency national conference he called a year earlier might have headed off this crisis, he asked again for such a gathering. This time, with Deep South states seceding one after another, the legislature agreed but despite the governor's opposition, it also ordered the election of delegates to a state convention. That election and the national peace conference were both set for February 4.³

Lincoln's calls for troops caused the Virginia Convention finally, to secede on April 17, 1861 and join the newly-formed government of the Confederate States of America. Confederate officials saw Virginia as a founding state and one that enhanced the Confederacy geographically and economically. Richmond, too, had much to offer to the Confederate government such as its

³ Ernest B. Furgurson. *Ashes of Glory* (New York: Alfred A. Knopf, 1996), 24.

proximity to the likely battlefield, its location on the James River and connections to the Atlantic, and its modern foundry, the Tredegar Iron Works, the only one of its kind in the South. Confederate officials knew that war with the Union was close at hand, and they would need as much armament as could be made available. Richmond, with its industrial might powered by the James River, was seen as a vital place. On May 26, just days after Virginia formally joined the Confederacy, the CSA government relocated the capital from Montgomery, Alabama, to Richmond.⁴ Moving the capital to Richmond married the state to the Confederacy and made Richmond a significant military target for the Union.

At the outbreak of the Civil War, the Confederacy had “just over nine cities of the former United States with populations over 100,000 and just 14 percent of its industry.”⁵ Within a very short period of time the Confederacy would find itself waging not only a war against the Union, but a war of logistics and scarcity. “Iron was the key to Richmond’s greatest economic advantage to the Confederacy. The city was the center of industry south of the Potomac.”⁶ Founded in 1837 by West Point graduate Joseph Reid Anderson, the city’s Tredegar Iron Works grew into one of the most advanced foundries in the South. Anderson’s foundry would prove to be an essential part of armament production for Confederate Ordnance as the CSA’s industrial capabilities were miniscule when compared to the Union. In the Confederacy, Richmond stood along as a large-scale industrial center. Other major cities like Savannah and New Orleans lacked the capacity to manufacture iron on a large scale. “Without Richmond and her iron industry, the Confederates’ war-waging capacity would suffer a staggering blow.”⁷ Considering this fact, it is apparent that

⁴ “Capital Cities of the Confederacy.” Accessed June 2014. www.civilwar.org/education/history/warfare-and-logistics/capital.html.

⁵ Thomas Boaz. *Guns for Cotton: England Arms the Confederacy* (Shippensburg, Burd Street Press, 1996), 1.

⁶ Emory Thomas. *The Confederate State of Richmond* (Baton Rouge: Louisiana State University, 1998), 23.

⁷ Mike Wright. *City Under Siege*, (New York: Cooper Square Press, 2002), 21.

the city of Richmond played a more vital role during the Civil War than any other city in the Confederacy.

Armament

Confederate armament during the Civil War was wide-ranging and consisted of various types of weapons from antiquated, Revolutionary war era muskets to sporting arms used for hunting. The first half of the nineteenth century saw a revolution in arms technology and it is important to note two major developments, ignition systems and rifling. Prior to the 1830s, firearms were ignited with a flint-lock action, whereas a small piece of flint was struck against metal to create a spark, thus igniting an exposed pan of gunpowder which propelled the musket ball. These were delicate actions that were susceptible to damage. Shooters were limited in wet weather as the exposed powder was easily made useless, leaving one with little more than a club. In the 1830s the percussion cap was introduced which was essentially a self-contained ignition system. As soon as the gun's hammer hit the cap, there was instant ignition and no waiting for a spark or an ignition. This made firearms more reliable and easier to maintain. By the 1840s, the U.S. Army's aging flintlock weapons were being replaced or refitted with the more modern, percussion system. In addition to the development of the percussion system, rifling was becoming standardized around the same time. Rifling is the technique of manufacturing gun barrels with spiral grooves within them. Developed by German gunsmiths as early as the 16th century, the practice of manufacturing rifled barrels was a time consuming and expensive one usually reserved for highly-priced custom firearms built for royalty or hunters who depended on the accuracy of a rifled barrel for their livelihood. The rifling in the barrel forces the projectile to spin and "cut through" the air, making the projectile more accurate and giving it slightly more range. The machinery for marking rifled barrels was advanced and required an experienced

gunsmith to produce consistent examples. Standard-issue rifles were becoming part of the U.S. Government's inventory in the 1840s. It is important to note these advances as many of the weapons in Confederate arsenals at the outbreak of the war were of the older, flintlock variety or percussion arms with smooth-bore (non-rifled) barrels. Considering the importance of these newer developments, the newer machinery available to the Confederacy in the early days of the war (and consequently the people needed to operate it), were essential.

At the outbreak of the war the Confederate government possessed only the arms seized from Federal arsenals and what its citizens owned personally. That said, sporting arms were used widely in most states in the Union, but particularly so in the South. "Southern farm boys used to shooting to provide food for the table found themselves facing city-bred and immigrant youths who were less likely to be familiar with firearms. The U.S. Sanitary Commission reported that 47 percent of Union soldiers were farmers or farm workers. A separate study showed 61 percent of Confederate soldiers were farmers or planters."⁸ Even though in the initial months of the war Confederates demonstrated their competence and prowess with weapons, as the war dragged on, the onslaught of arms, equipment and men from the North strained Southern morale, manpower, and most importantly, supply.

The head of the Confederate Ordnance Department, Josiah Gorgas, came to the new capital of Richmond in June 1861 and promptly called for an inventory of arms in Confederate arsenals. It showed supplies significantly lacking. "Having found that the Texas Arsenal had 4,200 arms on hand, Baton Rouge, none, Mount Vernon, 1,200, Augusta, none, Charleston, 500, Lynchburg, 1,100, Montgomery, 3,000, and Richmond, 5,000, in all 15,000."⁹ Gorgas quickly

⁸ Thomas, *The Confederate State of Richmond*, 23.

⁹ Frank Vandiver. *Ploughshares into Swords: Josiah Gorgas and Confederate Ordnance* (College Station, Texas A&M University, 1994), 67-68.

contracted with arms makers throughout the Confederate states to manufacture much-needed arms and ammunition. By the end of 1861 the Confederate Ordnance department was

optimistic over contracts for small arms: 20,000 rifle muskets, 16,000 rifles, 5,000 breech-loading carbines, and 1,000 lances. Arsenal production had been climbing and the Richmond Ordnance Laboratory could now make from 50,000 to 100,000 rounds of small arms ammunition daily, plus 900 rounds of field artillery ammunition. The Richmond Armory could make, after September 15, 1,000 small arms per month; and the armory at Fayetteville, 500 per month, providing of course that skilled workers were available. August Arsenal, under Rain's sharp eye, could make 20,000 to 30,000 rounds of small arms ammunition per day and was ready to make field ammunition. Charleston Arsenal, under the command of Captain F.L. Childs, could make 15,000 to 20,000 rounds of small arms cartridges per day and it, too, was ready to make field ammunition. So was Gorgas' old Mount Vernon Arsenal, which could produce 10,000 to 15,000 cartridges daily. Baton Rouge Arsenal could make 30,000 to 40,000 rounds per day and was about ready to make field ammunition and one field carriage per week. Virginia Military Institute at Lexington, and the ordnance shop at Norfolk, made 5,000 and 10,000 small arms cartridges per day.¹⁰

Although ordnance production had increased significantly by the end of 1861, Gorgas and other Confederate officials knew that they could not rely on domestic supply and manufacturers alone but had to look elsewhere for small arms and other essential military equipment.

During the course of the war, the Confederacy looked to the arsenals of Great Britain, as one source of small arms and weaponry, as the South's industrial capabilities were impeded by the shortage of materials and lack of infrastructure. Although many Southerners were aware of the industrial might of the Union, they believed that they did hold one significant advantage, cotton.¹¹ The textile industries of Britain depended on cotton from the American South, and Confederate officials believed that this would serve as legitimate currency for small arms from Britain.

¹⁰ Vandiver, *Ploughshares into Swords*, 81-82

¹¹ Thomas, *The Confederate State of Richmond*, 3.

British small arms were highly-evolved by the mid-19th century. At that time, Great Britain was arguably at the height of its global power. British soldiers were equipped with highly accurate rifles that were churned out by the thousand at their Royal Ordnance Factories at Enfield and Birmingham. These Enfield rifles (as they were called) would prove very effective in the hands of Confederate soldiers during the course of the Civil War but their supply was not always plentiful. In May 1861, Stephen Mallory, Secretary of the Confederate Navy, sent James D. Bulloch to England to procure military items to arm the new Confederate Army and Navy.¹²

One month prior, though, President Abraham Lincoln declared a blockade of Confederate ports in effect. Initially, many Southerners believed this to be a positive move as they hoped that England, dependent on Southern cotton, might respond to the blockade by intervening on the side of the Confederacy. But the British remained officially neutral and did not intervene. By the end of July 1861 all major Southern ports had been blockaded by the U.S. Navy and, with the Confederate Navy in its infancy, the government encouraged privateers to seize Northern merchant ships.¹³ By the closing days of 1861 it was evident that the supply of arms from Britain, while significant, was not consistent. Between the naval blockade, the lack of Confederate credit, and the capacity of British manufacturers, the CSA would have to lean more heavily than hoped on domestic manufacturers for small arms. Numerous other towns and cities manufactured arms for the Confederacy, but none rivaled Richmond, with the James River providing essential water power, its proximity to the front lines, and the railways, stretching from the city like arteries, carrying materials and equipment to and from the city.

Jurisdiction: The State within The Confederacy

¹² Boaz, *Guns for Cotton*, 8.

¹³ *Ibid*, p. 7

On the banks of the Potomac River at Harper's Ferry in Virginia, one of the nation's oldest Federal armories turned out muskets and rifles by the thousands every year. The Harper's Ferry Armory traced its origins to the early part of the 19th century and was the largest armory in the U.S. next to Springfield Armory in Massachusetts. As one of the premier armories in the nation at that time, Harpers Ferry possessed important arms manufacturing equipment that could be vital to the Confederacy. It is important to note here that while Harpers Ferry armory was well-behind Springfield when it came to state-of-the-art technology, in the summer of 1861, the machinery from Harpers Ferry was the best, and most current available to the state of Virginia, and consequently the Confederacy.

Following Virginia's secession from the Union in April 1861, Federal troops abandoned the armory but set fire to parts of the facility upon their departure. Soon thereafter, Confederate officials surveyed the damaged equipment with the idea of transporting it to Richmond to be used for the manufacture of ordnance for the Confederate war effort. Initially there was some confusion between Confederate and Virginia authorities as to the jurisdiction under which the Harper's Ferry equipment fell. As Chief of Ordnance, Josiah Gorgas understandably wanted the equipment to be used in the most effective manner possible for the Confederacy and thus, believed the equipment should fall directly under Confederate jurisdiction. Virginia officials felt that the machinery was property of the state (Virginia) and concessions could not be made to the CSA government until proper formalities had been discussed and approved within the Virginia state government. By July 1861 much of the equipment was set to be transferred from Harper's Ferry, and Gorgas wanted state authorities to agree that it fell under his (CSA) jurisdiction.

Gorgas pushed harder for the final transfer of the Harper's Ferry machinery to his jurisdiction. On July 3 he issued an order directing that all the "shafting, vices, tools, &c., now at the Central depot, from Harpers Ferry, belonging to the rifle factory, will be transferred to W.S. Downer (military store keeper) for shipment to Fayetteville as rapidly

as possible.” A general inventory at Fayetteville, and anything belonging to the musket factory was to be returned to Richmond- by order of the Secretary of War. It mattered now who directed or issued these instructions, since the Chief of Virginia Ordnance did not feel at all constrained to obey any directive concerning his precious machinery.¹⁴

Virginia’s Chief of Ordnance, Charles Dimmock, felt that his authority was supreme over the equipment in question, and his correspondence with Gorgas demonstrates that. Born in Massachusetts in 1800 and a West Point graduate, Dimmock’s work brought him South and by 1840 he was a captain in the Virginia militia. By 1850 he was a member of the Richmond City Council.¹⁵ Gorgas and Dimmock issued orders, and at times the individuals who received the orders were not entirely sure who to obey, or whose orders trumped the other’s. To one officer, Dimmock gave specific directions regarding the delivery of resources from the recently-abandoned armory at Harper’s Ferry.

Until the order of the governor is received this department cannot be governed by orders from elsewhere.” Apparently dismayed by Dimmock’s disobedience, Gorgas on the eleventh directed the master-armorers [Salmon Adams] to deliver to Downer [CS military storekeeper] the lead which had recently been received from Harpers Ferry. This order, too, was issued under the direction of the Secretary of War, but Dimmock again instructed the master-armorers to await orders from the Governor.¹⁶

These seemingly minor matters continued until weeks later when Confederate President Jefferson Davis and Virginia governor John Letcher made an agreement. According to this agreement, everything pertaining to the manufacture of ammunition (and presumably arms) should be handled by Confederate Ordnance, while the manufacture of gun carriages, caissons, and accoutrements belonging to artillery and the issue of artillery and arms should be handled by the state of Virginia. Confederate Master Armorer James Burton urged Gorgas to retain much of

¹⁴ Vandiver, *Ploughshares into Swords*, 68.

¹⁵ “Virtual American Biographies: Charles Dimmock.” Accessed July 2014.
www.famousamericans.net/charlesdimmock/.

¹⁶ Vandiver, *Ploughshares into Swords*, 68.

the machinery seized from Harpers Ferry in Richmond. He argued that the Richmond Armory, which was nearing completion that summer, “would be able to produce 15,000 arms annually, and the removal of any part would seriously cripple the plant’s capacity.”¹⁷ Although some of the seized machinery was sent to North Carolina for the production of Confederate arms at Fayetteville, much of it was retained at the Richmond Armory. Constant bickering and contradictory correspondence between Confederate and Virginia state officials surely slowed what could have been expedient production in the opening months of the war. While this problem is clearly illustrated in the summer months of 1861, it was a problem that continued throughout the war.

In addition to the pressing need for armament, the Ordnance department needed to manufacture gunpowder on a large scale because after all, the Confederacy’s growing number of firearms would certainly be useless without powder or ammunition. In the summer of 1861, President Jefferson Davis and Chief of Ordnance Gorgas selected George Washington Rains for the job of overseeing powder manufacture for the CSA. Confederate commanders in the field found reserve powder drastically lacking. Albert Sidney Johnston’s army in Tennessee had hardly a pound on hand.¹⁸ By the following spring, Rains had established powder-making facilities at Nashville, New Orleans, and at perhaps the Confederacy’s most significant powder facility, the Augusta Powder Works in Georgia. By mid-1862, the Confederacy possessed enough powder to make 20,000,000 cartridges for small arms, “more than sufficient, according to the military estimate, to supply an army of 400,000 men for twelve months.”¹⁹ In the grand scheme of Confederate armament, Richmond played a significant role throughout the entire war, one in which the Richmond Armory and the Tredegar Iron Works factored greatly.

¹⁷ *Ibid.* 70-71

¹⁸ *Ibid.* 75

¹⁹ *Ibid.* 77

In examining these two manufactories, I want to compare them side by side, each from the standpoint of their workers and within the timeline of the Civil War in Richmond. I have attempted to be as linear as possible, beginning in the time period just before the war, and continuing on as the war happened, while being inclusive of significant events that impacted the city and its people. Finally, I hope to expound upon their varied experiences and circumstances during the war to bring to light a better understanding of Richmond during the Civil War. Richmond, during the war years, was many things to many people. To CS officials it was a capital city, the seat of their short-lived government, to the Union, a bastion of rebellion, to be taken at any cost. To Richmonders it was a place, a community. A community of people living and working during what was arguably the most strenuous period in American history, doing what they could for “their cause,” their families, and ultimately for themselves.

CHAPTER ONE: C.S. ARMORY- Richmond

Given the logistics of the time period like jurisdiction, infrastructure, and access to resources, it is impressive considering what the Richmond Armory did between 1861 and 1865. The manufacture of thousands of percussion, rifled weapons with what little the Armory had to work with compared to everything at the Union’s disposal is notable. This chapter highlights the people at the Richmond Armory making the most with what was available. Many of these men knew one another outside of the Armory as the majority of them came to Richmond from the same places.

In a city like Richmond during the mid-19th century, there would have been a large demand for firearms. Generally, small pocket-pistols, like those manufactured by Henry

Derringer, were very popular for self-defense at the time while other arms like Colt's 1851 Navy revolver were cutting edge and in high demand. According to the 1860 Richmond business directory, there were four individuals listed under, "Guns, Pistols, &c." In a city, like Richmond, whose 1860 population was 37,910, having only four gunsmiths or gunmakers should speak to how specialized and limited the firearms industry of the era was.²⁰ These four arms makers, C.E. Grohnwald (of 197 Broad St.), Samuel Sutherland (of 132 Main St.), T.W. Tignor (16 E. Main St.), and James Walsh (60 Main St.) likely were small-scale makers of weapons and would have possessed the specialized skills of full arms making from the lock, stock, and barrels of the weapons they were manufacturing. As individual makers they would likely have been unfamiliar with the large-scale manufacturing processes of standardized weapons that were being called for at the outbreak of the Civil War. A. Merwyn Carey's, *American Firearms Makers*, an extremely thorough list of makers throughout the U.S. from the late 1700s-the mid-1900s only lists Samuel Sutherland and James Walsh, suggesting that of the city's four 1860 gunmakers, Sutherland and Walsh were the larger of the four. Carey has the former listed, "Sutherland, Samuel 1855-1865. General gunsmith and dealer at 174 Main Street, Richmond, Virginia, before the War Between the States. Under Confederate States contract altered flint-lock rifles to percussion and made percussion underhammer pistols."²¹ It would appear that Mr. Sutherland worked as a subcontractor for the CS Government, to the point that he opened "a large plant chiefly devoted to the alteration of flintlocks and reclamation of arms damaged in the Confederate Service."²² Sutherland's skill in working with older, pre-war weapons would have made him more valuable as a subcontractor to the Confederate government rather than an artisan unfamiliar with the

²⁰ "Largest Cities in the South in 1860." Accessed July 2014.

<http://civilwargazette.wordpress.com/2006/12/12/largest-cities-in-the-south-in-1860/>.

²¹ Merwyn A. Carey. *American Firearms Makers* (New York: Thomas Crowell Co., 1953), 119.

²² "Sutherland, Samuel," Database of USA Gunmakers. Accessed August 2014.

<http://www.earmi.it/USA%20Gunmakers/S.html>.

large-scale manufacturing machinery at the Armory. James Walsh appears to be more a dealer and supplier than a gun maker, as Carey lists him as, “Walsh, James 1861-1864. Shop and dealer at 60 Main Street, Richmond, Virginia. Smuggled Colt percussion revolvers to the Confederate States. His name stamped on some arms.”²³ The gunsmiths and arms makers of the antebellum era were largely a cottage industry that consisted of highly-skilled craftsmen who built utilitarian long-arms and pistols for sporting purposes and personal protection. Aside from repairing and converting more antiquated weapons, it is likely that these men were unfamiliar with the large-scale manufacturing methods of the period like those used at the Harpers Ferry Arsenal or at Springfield Armory. Additionally, these skilled men would likely have made more money in the early 1860s as gunsmiths working for the public or modifying arms for service on an individualized basis rather than becoming workers in a larger government arsenal. They likely would have not gone seeking employment at any of the larger CS arms making facilities as they would have considered themselves more craftsmen than workers who operated machines or fitted parts in an armory. The mid-19th century saw many advances in firearms design and manufacture and by the 1850s, the industrial revolution had truly changed the nature of gun-making. It is not coincidental that many of the major firearms manufacturers that exist today (Colt, Smith & Wesson, Winchester), trace their roots back to the mid-1800s, as the manufacturing capabilities of the era lent themselves to large-scale production of arms. Richmond gunmakers like Samuel Sutherland would likely have considered themselves dedicated arms-makers, rather than engineers needed in an arms plant.

The Confederate States Armory in Richmond was established in the fall of 1861 on the James River near the Tredegar Iron Works between 5th and 7th streets. The 1863 *Stranger's Guide and Official Directory to the City of Richmond* noted, “The Richmond Arsenal situated on

²³ Carey, *American Firearms Makers*, 129.

‘Byrd Island’ as that part of the city is called, which is situated between the canal and the river east of 5th street. The Arsenal and adjacent grounds occupy nearly four squares of ground fronting on 7th street. The large buildings thereon, formerly used as tobacco warehouses, are now occupied as workshops, etc.”²⁴ The Armory’s job was two-fold: produce standardized weapons for the Confederate government and recondition older weapons for front-line service. Firearm technology evolved significantly in the thirty years prior to the Civil War, but arsenals (both Union and Confederate) still had large stocks of weapons from the eras of the War of 1812 and Mexican War that needed to be updated. Rifles began to be turned out of the Armory in October, patterned after the service rifles being manufactured for the Union Army at Springfield Armory. On the 11th of October, the *Richmond Enquirer* ran an article on the Armory.

THE STATE ARMORY- This valuable establishment, which from its importance to the cause of Southern independence, may, with more propriety be termed a national than a State institution, is situated at the foot of 7th street, upon the banks of the James River, from whence it draws its abundant supply of water for the propelling of the machinery required in the manufacture of small arms. The operations of the Armory have, under the supervision of its capable Superintendent Col. Burton, and his assistants, been marked with the most commendable energy. In proof of this gratifying fact, we have but to mention that though the tearing down of the machinery recovered at Harpers Ferry was not begun until April 19th, and its conveyance to the city was not completed for several weeks subsequent to that date, yet in a few short months which have since elapsed, the armory had been put in complete working order, and a system of active operations inaugurated which will enable the establishment to furnish henceforward to the Confederacy not less than 1,000 improved muskets each month. At present about 200 persons, in all, are employed in the establishment, of whom between thirty and thirty-five were formerly connected with the National Armory at Harper’s Ferry, and have thus been qualified to render most valuable service in the organization of “OUR SOUTHERN CONFEDERATE ARMY.”²⁵

Other than the James River, which powered the Armory, perhaps the most significant resource possessed by the Armory was its skilled workers. The men who crafted arms during the

²⁴ *Stranger’s Guide and Official Directory to the City of Richmond*, 1863

²⁵ *The Richmond Enquirer*, October 11, 1861. Accessed June 2014.

http://www.mdgorman.com/Written_Accounts/Enquirer/1861/richmond_enquirer_10111861.htm

Civil War were highly-skilled and in high demand in both the Union and Confederate states. Aside from the craftsmen who were ironworkers, gunsmiths, and stock makers, the workers who had the knowledge to operate the manufacturing machinery were themselves skilled. Under the manufacturing methods of the era, at the Richmond Armory workers would be assigned to a specific “shop” or department. The Armory consisted of eight different shops, the Stocking Department, Machine Shop, Mounting Department, Assembly Room, Locking Department, Polishing Department, Smith’s Shop, and Mill Wright’s Shop.²⁶ Men who possessed the knowledge and skills to manufacture quality guns and gun parts were reminiscent of a guild and it is feasible that many of them knew (or knew of) one another. It will come as no surprise that the Superintendent of CS Armories seemed to “farm out” gunmakers with whom he was familiar to other parts of the CSA to establish arms manufacturing facilities.

One of the most significant individuals involved in the story of the Richmond Armory is James H. Burton, who became the Superintendent of the Confederate Armories. Burton was born in Jefferson County, Virginia (now West Virginia) in 1823 and by 1849 was the master armorer at Harpers Ferry. In the mid-1850s Burton moved to England and became chief engineer at the Royal Small Arms Factory at Enfield, which would provide significant amounts of arms to the Confederacy during the Civil War.²⁷ With his ability to organize and oversee large-scale manufacture, and his experience at RSAF-Enfield, Burton was essential to the establishment of the Richmond Armory. Being the former master armorer at Harpers Ferry, Burton would have already been familiar with the machinery that had been relocated from Harpers Ferry to Richmond. After becoming superintendent of all Confederate Armories in late 1861, Burton moved about the Confederacy (most notably to Georgia) establishing and supervising other arms

²⁶ *Ibid.*

²⁷ Collection description of Spiller and Burr factory Records, Digital Library of Georgia. Accessed July 2014. http://dig.galileo.usg.edu/meta/html/dlg/turningpoint/meta_dig_turningpoint_ahc0334f-001.html.

manufactories and does not seem to have spent significant time in Richmond after May 1862. Burton and his growing family had been living on Canal Street near the Tredegar Iron Works when he received orders from Secretary of War George Randolph to report to Atlanta to “make arrangements to establish an armory at or near that place.”²⁸ While Burton spent much of the war in Macon, Georgia, and traveling throughout the Confederacy it is nonetheless important to include Burton’s association with the Armory as he was largely responsible for its organization in its initial months of production. Were it not for Burton and his experience at Harpers Ferry, C.S. Armory Richmond may have started much later than it did.

The Armory’s stocking department was under the direction of John W. Krepps. According to the *Richmond Enquirer*,

Here the stock is first rudely fashioned, and then nicely turned to its proper form, the work of grooving it for the reception of the barrel, lock plate, breech plug, &c., is performed each day by a different piece of machinery, of which there are twelve in all, and the stock is then ready for its mountings. This department is under the direction of John W. Krepps, foreman, and is capable with its present force, of turning out seventy-five barrels a day, an aggregate which can, however, be largely increased by extra exertion.²⁹

Born in Jefferson County, Virginia in 1813, John Krepps was one of the 30-35 workers at the Richmond Armory who came from Harpers Ferry and he certainly knew James Burton prior to working together in Richmond.³⁰ In a letter to Col. Gorgas on November 17, 1862, James Burton wrote of “the foreman who had charge of the stock machines in the Richmond Armory, Mr. J. Krepps, who had charge of the same machinery at Harpers Ferry.”³¹ It makes sense that James Burton would put someone he had known at Harpers Ferry in the position of the foreman of the stocking department at the Richmond Armory. Burton thought highly enough of Krepps

²⁸ Thomas K. Tate, *From Under Iron Eyelids: The Biography of James H. Burton, Armorer to Three Nations* (Bloomington: Author House, 2005), 183.

²⁹ *The Richmond Enquirer*, October 11, 1861. Accessed June 2014.

http://www.mdgorman.com/Written_Accounts/Enquirer/1861/richmond_enquirer_10111861.htm.

³⁰ US Census, 1860. Accessed July 2014. <https://familysearch.org>

³¹ Paul Davies. *CS Armory Richmond* (Carlisle, Paul J. Davies, 2000), Burton-Gorgas letter, November 17, 1862, 84.

and his abilities that late in 1862 he requested that Col. Gorgas send Krepps down to Macon, Georgia, where Burton was establishing another arms making facility.

18 November 1862- J.H. Burton, Supdt., Macon to Col. J. Gorgas, Richmond, Va,- received letter of 14th inst. on “subject of gun stocks required for repairs of arms received from the field,”- yesterday I requested the detail of Mr. Krepps from Richmond Armory- “With Mr. Krepps assistance I shall be able to organize two sets of hands to work night & day”- since writing my letter of the 15th found “that important parts of the machines for rough turning stocks received from Holly Springs, Miss, have been left behind at Columbus, Miss,”- “fear that they may have been lost or destroyed”- “Unless I recover these parts, it will become useless to attempt fitting up of the machines.”³²

By late 1862 the Confederacy had another significant arms factory at Fayetteville, North Carolina, and it would seem logistically sensible to get a capable individual from the stocking department there to come down to Macon rather than from farther north in Richmond, but Burton requested Krepps. In addition to Krepps’ competence as a skilled worker it is certainly possible that the pair were friends as they both had worked together at Harpers Ferry. It also speaks to the fact that workers as skilled as Krepps were uncommon, and their expertise was called upon in many places across the South.

In the closing months of 1861 the Richmond Armory ran numerous classified advertisements for skilled workers in the *Richmond Dispatch* in hopes of adding as many skilled laborers to their workforce as possible to outfit CS Armies in the field. An ad dated October 12 stated, “WANTED- At the Confederate States Armory, in this city, two PATTERN MAKERS and four good SMITHS, Apply to Mr. SALMON ADAMS, Master Armorer, at the Armory, Satisfactory reference required. JAS. H. BURTON, Sup’t.”³³ The Armory was in need of workers to facilitate faster production and with the large numbers of able-bodied men in the ranks of the

³²*Ibid.* Burton-Gorgas letter, November 18, 1862, 85.

³³ *Richmond Dispatch*, October 12, 1861. Accessed July 2014.

http://www.mdgorman.com/Written_Accounts/Dispatch/1861/richmond_dispatch_10_12_18613.htm.

Confederate Army, workers (especially skilled ones) were hard to come by. Workers that possessed specialized skills were a precious commodity during the War, and the Armory worked to secure draft exemptions for these workers. Additionally, the classified advertisements placed by the Armory would have been considered competition by other foundries in the city, particularly at the nearby Tredegar Iron Works. By early 1862, the state legislature passed a conscription act that established enrollment in the militia for all males between 18 and 45 years of age, but Gov. Letcher worried about Richmond because of the city's manufacturing capabilities, which, he noted, "are doing so much to uphold the Southern Confederacy and its loss to us would be well nigh irreparable."³⁴ Upon the governor's urging, and "to protect the economy of the home front, the legislature subsequently adopted exemptions, emphasizing public officials, local civil servants, ministers, doctors, and officers of businesses essential for communications in the state- telegraph, canal, and railroad companies."³⁵ The majority of Richmond Armory workers received exemptions as their work was seen as essential to the Confederate war effort as Confederate legislation of April 16, 1862 exempts, "All shoemakers, tanners, blacksmiths, wagon makers, millers and their engineers and mill-wrights, skilled and actually employed on the 16th of April, 1862, in said trades as their regular vocation, and working therein for the public, and who have since said time been so regularly employed."³⁶

C.S. Richmond's Master Armorer, to whom the aforementioned job applications went, was Mr. Salmon Adams. Adams was born in Springfield, Massachusetts, in 1819 and at one time had been employed as an arms inspector at Springfield Armory. Considering this, Adams must

³⁴ William Blair. *Virginia's Private War: Feeding Body and Soul in the Confederacy, 1861-1865* (Oxford: Oxford University Press, 1998), 49.

³⁵ *Ibid.* p. 49

³⁶ "Confederate States of America, Congress. House of Representatives. A Bill: To exempt certain persons from military duty, and to repeal the acts heretofore passed by Congress on the same subject." University of North Carolina. Accessed July 2014. <http://docsouth.unc.edu/true/csa1863.html>.

have been a welcome addition to the state of Virginia, which was attempting to copy the U.S. service weapons (manufactured at Springfield) and standardize them. Adams's pre-war correspondence hints at his awareness of an oncoming conflict, and he was attempting to amass arms for Virginia before it was too late. Writing to Secretary of War John Floyd from Springfield Armory in November 1860,

My DEAR SIR:

Please allow me to address a line to you on a matter that deeply interests your State. Having been engaged in the Springfield Armory for fifteen years last past, and knowing that assistance has been rendered and privileges granted to foreign Governments and to some of our own states, as well as to private individuals, I desire the same favors granted to the State of Virginia. I have no hopes of any favors from Colonel [Henry K.] Craig, for in a conversation with him a few months since I found him deadly opposed to the Virginia Armory.

"We wish to use some of the armory patterns for the Richmond machinery, and the privilege of taking drawings of fixtures, tools, &c.

"I desire that the honorable Secretary issue an order to the superintendents of the Springfield and Harpers Ferry armories to give the master armorer of the Virginia State Armory and Joseph R. Anderson or his agents every facility they may need in said armories, at the same time not interfering with the legitimate business of the armory.

"I desire to get all the assistance we can from the national armories before our much-honored and esteemed Secretary of War vacates his office, for I have no hopes of any assistance after a Black Republican takes possession of the War Department. Should the honorable Secretary see fit to grant the request of the petitioner, I wish a copy of the order to be sent to me at Springfield, Mass, as I shall be engaged here for a couple of months getting up a model gun for the State of Virginia.

Your humble servant,

S. Adams, Master Armorer
State Armory Virginia."³⁷

Hired as Master Armorer in Richmond, Adams seemed to be a strong Southern sympathizer as his letter suggests. It is unclear how Salmon Adams transitioned from arms inspector at Springfield Armory to Master Armorer for the state of Virginia, and then to inspector at the Richmond Armory but his sympathies stayed with the Confederacy as he was employed at the Armory from 1861 until the end of the war. Salmon Adams had known Burton

³⁷ Tate. *From Under Iron Eyelids: the Biography of James Burton, Armorer to Three Nations*. Adams-Floyd letter, November 24, 1860, 151-152.

prior to the outbreak of the war as Burton had dealings with the Springfield Armory when he was Master armorer at Harpers Ferry. As inspector, Adams, one of the senior officials at the armory, would have reported to Burton. It was the job of Mr. Adams to inspect and stamp his initials into finished Richmond rifles as they left the armory, bound for the front.

A man by the name of Reese H. Butler was in charge of the Mounting Department at the Armory: “The foreman of this department is R.H. Butler, who has at present under his control about 63 workmen, and I.B. Myers, who controls about forty mechanics.”³⁸ Reese Helm Butler was born in Harpers Ferry in 1833 and rose to the position of foreman of the Machine Shop at the Harpers Ferry Armory in the 1850s. Butler, like Krepps, appears to be one of the men that Burton brought down to the Richmond Armory. The following year (1862), Burton recruited Butler to be superintendent of the Spiller & Burr pistol factory in Atlanta, Georgia.³⁹ This is further evidence of Burton’s confidence in Butler. Myers is likely to be Isaac B. Myers, born in 1827 in Jefferson County, Virginia.⁴⁰ Between their possible relationships in Jefferson County and their presumed experiences as co-workers at the Harpers Ferry Arsenal, it seems plausible that Burton put Myers in control of forty mechanics. Later in the war, Myers was assigned to an inspector’s position at the Spiller & Burr pistol factory in Atlanta, Georgia, alongside his one-time Richmond Armory co-worker Reese Butler.⁴¹

The Smith’s shop fell under the direction of Henry W. Clowe, who is reported to have assisted in “rescuing” some of the damaged equipment from Harpers Ferry. Mr. Clowe is yet another individual hailing from Jefferson County, Virginia.⁴² Born in 1812 or 1816, Clowe did

³⁸ *Richmond Enquirer*, October 11, 1861. Accessed July 2014.

http://www.mdgorman.com/Written_Accounts/Enquirer/1861/richmond_enquirer_10111861.htm.

³⁹ “The Men, Reese Helm Butler (1833-1886).” Accessed July 2014. www.csarmory.org/spiller/page3.html.

⁴⁰ US Census 1860. Accessed July 2014. <https://familysearch.org>.

⁴¹ William Albaugh and Edward Simmons. *Confederate Arms* (Harrisburg: Stackpole Company, 1957), 249.

⁴² US Census 1860. Accessed July 2014. <http://familysearch.org>.

not serve in the military but was appointed superintendent at the Harpers Ferry Arsenal in 1854 at the recommendation of Congressman Charles Faulkner. He appears to have replaced a number of workers at the Arsenal with friends of Congressman Faulkner and as a result was removed as superintendent in 1858.⁴³

The Armory's Lock Department fell under the jurisdiction of Joseph A. Brua. The Lock Department would have been a particularly specialized area of the Armory, where locks were carefully manufactured and polished before being fitted to the weapons. As the firing mechanism of the weapon, the lock, with its series of small springs and pins, certainly would have been laborious to manufacture. Joseph Brua was born in Jefferson County, Virginia, in 1820 and was another of Burton's "transplanted" skilled workers. Temporarily held hostage by John Brown during his infamous raid on Harpers Ferry in October 1859, Brua would have surely felt animosity toward the abolitionist North and gladly offered his services to the Confederacy via the Richmond Armory.⁴⁴

By late October and early November 1861 the arms turned out of the Richmond Armory were beginning to be issued to Confederate soldiers. "Boxes of 20 finished stand of arms, a rifle musket and its accompanying fluted socket bayonet, would have been turned over to the C.S. Armory, Richmond's Military Storekeeper (MSK) W.S. Downer, who would have turned the arms over to MSK of Richmond Arsenal, O.W. Edwards, for issue"⁴⁵ and on November 7, the *Richmond Dispatch* noted, "C.S. Armory.- There seems to have been no lack of energy on the part of the managers and workmen at the Confederate States Armory, in this city. The machinery

⁴³ Paul Shackel. *Culture Change and the New Technology: An Archaeology of the Early American Industrial Era* (New York: Plenum Press, 1996), 82.

⁴⁴ "Harpers Ferry: John Brown's Raiders," National Park Service, Harpers Ferry National Historical Park. Accessed August 2014. <http://www.nps.gov/hafe/historyculture/upload/Raiders03-2.pdf>.

⁴⁵ Davies, *CS Armory*, 9.

is nearly all in operation, turning out arms of a superior quality.”⁴⁶ Arms production seems to have continued smoothly into the early part of 1862. In February, Virginia’s Chief of Ordnance Charles Dimmock placed a classified advertisement in the *Richmond Dispatch* for “two journeymen gunsmiths,” leading one to believe that the Armory was most likely ready to add to its production capacity.⁴⁷ A few months later, during Union Gen. George McClellan’s Peninsula Campaign, panic gripped the city as the threat to Richmond seemed real. “Businesses shut down. Many houses were left deserted. Wagons heading south and canal boats heading west were packed with people, piled with suitcases and trunks. Rifleman in and out of uniform hurried down to the riverbank to repel the invaders.”⁴⁸ Amid this chaos, the city’s press seemed to be grasping for anything to shift attention from McClellan’s army or to boost local morale. On March 18, the *Richmond Dispatch* ran a brief article,

Good Men and True.- All of the workmen at the Virginia Armory took the allegiance to the Southern Confederacy last week, not grudgingly, but most willingly- The work they do daily testifies to their fidelity, for never were bees more eager in gathering in their stores of sweets than the industrious operatives there in fabricating all manner of uncomfortable appliances for the delectation of our expected Yankee guests. It is, perhaps, not proper to allude to what the ordnance department may be doing to arm the people, but we may be pardoned for saying, that no visitor to the Armory can leave the building without the conviction that the particular department is putting its best foot foremost.⁴⁹

It is likely that many of the workers at the Armory might have been able to find work elsewhere as their valuable skills made them potentially transient. Confederate and Virginia leaders thought it important to have Armory workers take an oath of allegiance to the Confederacy in the spring of 1862 during McClellan’s Peninsula campaign as they could have

⁴⁶ *Richmond Dispatch*, November 7, 1861. Accessed July 2014.

http://www.mdgorman.com/Written_Accounts/Dispatch/1861/richmond_dispatch_11_7_1861.htm.

⁴⁷ *Richmond Dispatch*, February 10, 1862. Accessed July 2014.

http://www.mdgorman.com/Written_Accounts/Dispatch/1862/richmond_dispatch_2_10_18626.htm.

⁴⁸ Sallie B. Putnam. *Richmond During the War* (Lincoln: University of Nebraska, 1996), 129-130.

⁴⁹ *Richmond Dispatch*, March 18, 1862. Accessed July 2014.

http://www.mdgorman.com/Written_Accounts/Dispatch/1862/richmond_dispatch_3_18_18621.htm.

easily left their jobs at the Armory to find work farther away from the immediate Union threat. Considering the fact that many of the Armory's workers do not seem to be native Richmonders, but rather transplants from the Harpers Ferry area, their connections to the city would have been minimal. The Richmond Armory was an entity controlled by the Confederate Government, which made its home in the city. The Armory management and certainly many of the specialized workers were not homegrown.

That same month (March), the Richmond Armory transitioned to the manufacture of a newer, more efficient lock than had been used on prior Richmond rifles. This task fell to William H. Wentzel, who was probably born in Jefferson County, Virginia, around 1842, making him relatively young to his Richmond Armory co-workers.⁵⁰ It is plausible that James Burton may have been acquainted with the Wentzels of Jefferson County or simply that Wentzel worked with one of the more complex parts of the weapons (the locks). Prior lock plates (pre-April 1862) seemed to have problems handling what were becoming "standard" percussion caps and the CS Ordnance Bureau ordered these problems remedied.

Thus the lock milling machinery operated by William H. Wentzel was altered by him to reduce the height of the hump so that it was equal to the surface of the wood thus eliminating the problems of capping and removing the fired cap. An additional cut was made in the lockplate, circumferentially to the cone to ensure ease of capping. In addition to Mr. Wentzel's efforts it is presumed that a new lockplate profile milling cutter would have to be made and the time to make this rather complex shaped devise and maintain interchangeability may have been the reason for not making the change sooner.⁵¹

Given this task and its necessity to the rifle's function, Wentzel's job was certainly an important one. Two other workers at the Armory were Albert Howard and David Hurley, who forged iron butt plates for Richmond rifles.⁵² It appears that Mr. Howard was born in

⁵⁰ US Census 1860. Accessed July 2014. <https://familysearch.org>.

⁵¹ Davies, *CS Armory*, 39.

⁵² *Ibid.* 39.

Connecticut in 1831 as, according to the 1860 US Census, he was the only “Albert Howard” living in the city of Richmond.⁵³ Mr. Hurley was an Irish immigrant who, according to the 1860 Census, was a carpenter living in Richmond.⁵⁴

By the summer of 1862, the Armory was turning out weapons at a steady pace with an estimated 2100 rifles being manufactured at the Armory in April and May alone.⁵⁵ Richmond newspapers that spring published a handful of classified ads for various types of workers needed at the Armory. However, with the threat of McClellan’s army, Confederate Secretary of War George Randolph suggested that part of the Armory (particularly the “stocking machinery”) be moved further South, to Macon, Georgia where James Burton had been busy establishing an arms manufactory. Following the relocation of the stocking machinery, output of rifle muskets produced at the Armory fell from 1100 in May to 487 in June.⁵⁶ Correspondence between Gorgas and James Burton highlight the wartime considerations regarding production facilities,

5 June 1862- J. Gorgas to Supdt. J.H. Burton, Atlanta, Geo.- “Sir- As it is important that the supply of Stocks should be kept up, I beg that you will have the “stock machinery” put up as soon as possible without waiting for the location of the main works. As to the question of security averted to yesterday, while Macon would be preferred on that account, all other things being equal, yet it is not believed that there ever can be any serious question as to the safety of Atlanta.”⁵⁷

Without a reliable supply of gun stocks, production of Richmond Armory rifles would be slowed greatly. Once the stocking machines had been packed and removed from the Armory in late May, stock-making at the Armory had to be done by hand.

11 June 1862- Jas. H. Burton, Supt. Of Armories, Atlanta, Ga. To Col. Gorgas, Richmond, Va.- “I have the honor to hereby acknowledge the receipt of your instructions of the 4th & 5th inst. on the subject of the location of the proposed Armory, and temporary

⁵³ US Census 1860. Accessed July 2014. <http://familysearch.org>.

⁵⁴ HeritageQuest Online- Census Image. Accessed January 13, 2015. <http://persi.heritagequestonline.com>.

⁵⁵ Davies, *CS Armory*, 41, 47.

⁵⁶ *Ibid.* 51.

⁵⁷ *Ibid.* Gorgas-Burton letter, June 5, 1862, 52.

erection of the stock machines at as early a day as practicable” The purchase of the proposed site for the Armory and the Messrs. Pitts & Cook for the erection of the stock machines for the purposes of a temporary machine shop will be, in my opinion, the very best that can be done, and I shall be glad to receive your instructions as soon as possible in relations thereto. Should you agree to the purchase of the latter I beg to request that you will detail Mr. J. Fuss M. Builder at the Richmond Armory, and such of the late operatives of the stock machines as may desire to come here.”⁵⁸

Jeremiah Allen Fuss, the Richmond Armory master builder that Burton requested, was born in Pennsylvania in 1814. Existing records indicate that a J. Fuss was married in Berkeley County, Virginia, in April 1839 which is very near Jefferson County, the area from which Burton and many of the aforementioned workers originated.⁵⁹ Fuss served as Mayor of Harpers Ferry for a time and worked as a master builder at the Harpers Ferry Armory for nineteen years (1841-1860).⁶⁰ Later in 1862, Fuss was dispatched to the Macon Armory where he would serve as Master Armorer.⁶¹

Production in 1862 was even slower than in July as 397 new rifle muskets were turned out of the Armory while plans for the transport and erection of the stock making equipment was ironed out. In addition to these problems, the Armory was shorthanded as William S. Downer, the superintendent of the Armory, wrote to Secretary of War George Randolph,

“20 hands short at the Armory- the detail of hands for the last 3 months refused- “Our force at the Armory is now in such a reduced state, that we have no relays; no one to take the place of a sick or disabled man, consequently every man absent by means of sickness decreases the product of the Armory. Mr. Adams [Salmon Adams], Master Armorer, is most indefatigable and industrious in pushing the work. “Beg that special arrangement may be made by which we can get the hands we need out of the Army, letting conscripts take their place there.”⁶²

⁵⁸ *Ibid.* Burton-Gorgas letter, June 11, 1862, 52.

⁵⁹ Berkeley County, Virginia marriage records. Accessed August 2014. <http://familysearch.org>.

⁶⁰ “The Men, Jeremiah Allen Fuss, Sr. (1814-1902).” Accessed August 2014. <http://www.csarmory.org/spiller/page3.html>.

⁶¹ Albaugh and Simmons. *Confederate Arms*, 221.

⁶² Davies, *CS Armory Richmond*, Downer-Randolph letter, August 15, 1862, 64.

Downer appears to have been another of Burton's pre-war acquaintances as he was born in Jefferson County in the 1830s and listed as a clerk at the Harpers Ferry armory in 1860.⁶³ Burton compounded the problem by requesting specialized workers from the Richmond Armory to establish the stock-making shop in Macon. Writing from Macon, Burton offered a Mr. W. Barrack employment "on the work you were engaged in at the Richmond Armory (stocking machines) provided you come at once (to Macon)," free transport for you, family, & effects."⁶⁴ For Burton to request Barrack at the CSA's expense to relocate his "family & effects," Barrack must have been someone Burton saw as essential to stock production. Barrack could possibly have been someone that Burton knew from his days in Jefferson County but no records of him exist. Burton's drive to establish an arms-making facility in Macon drastically interrupted production at the Richmond Armory and the production numbers in mid-late 1862 reflect that. In light of this slowed production, the Ordnance Department began contracting with other gunmakers for the manufacture of new arms and to have older weapons refurbished and updated. In a voucher dated August 20, 1862, Col. Dimmock contracted one A. Barrett, of Wytheville, Virginia, to manufacture "Fifty new Harpers Ferry Rifles at thirty dollars each,"⁶⁵ and in addition to this order, about a month later in a voucher dated September 30, Dimmock contracted with Barrett for "Rifling 902 muskets at \$1.50 ea., cleaning and polishing at 1.00, Altering 429 bayonets at 40 d, repairing 390 muskets at 40 d, 200 wipers for do at \$25d, Counter sinking 290 ramrod heads at 10d, 4 Minnie bullet moulds at \$10ea."⁶⁶ In those months alone, the Ordnance Department paid Barrett nearly \$4300, a large sum for the CSA government a year and a half into the war. Barrett was one of a handful of "cottage industry" manufacturers in Virginia

⁶³ HeritageQuest Online- Census Image. Accessed January 13, 2015. <http://persi.heritagequestonline.com>.

⁶⁴ Davies, *CS Amory Richmond*, Burton to Barrack, August 16, 1862, 64.

⁶⁵ Virginia Ordnance Dept. Voucher, C. Dimmock, August 20, 1862

⁶⁶ Virginia Ordnance Dept. Voucher, C. Dimmock, Sept. 30, 1862

helping to supply the Confederate Army. Richmond gunsmith Samuel Sutherland was one of the contractors called upon to update existing Confederate armament and it is probable that the Richmond gunsmith James Walsh did some of the same work.⁶⁷ The Richmond Armory was part of a larger picture when it came to small arms. A July 1862 payroll lists 41 men engaged in the “cleaning and repairing of arms” at a total cost of \$1,792.30,⁶⁸ so there was a significant effort to update existing arms as well as to manufacture them. This was ongoing but appears to be particularly evident in the summer-fall of 1862 when Burton was scrambling to establish the manufactory at Macon, thus straining the capacity of the Richmond Armory.

Manufacturing at the Richmond Armory ebbed and flowed throughout the latter part of 1862 and into 1863 with workers occasionally being called away from their machinery to take positions in and around the city in the event of a Union advance. 1863 was a particularly rough year for the city. In March, a massive ordnance explosion on Brown’s Island (nearby, in the James River) killed over 40 workers, mostly women. The *Richmond Examiner* the morning following the explosion read,

TERRIBLE LABORATORY EXPLOSION ON BROWN’S ISLAND- BETWEEN FORTY AND FIFTY PERSONS KILLED AND WOUNDED- HORRIBLE SCENES. Between eleven and twelve o’clock yesterday morning- some fix the time at exactly twenty minutes past eleven o’clock- a dull, prolonged roar in the direction of Brown’s Island, across the James River from the foot of Seventh street, startled that portion of the city and directed attention to the island, on which is located the Confederate Laboratory Works, for the manufacture of percussion caps and gun cartridges. But similar sounding explosions, arising from the trial of ordnance at the Tredegar Iron Works, had been daily heard in that neighborhood, and it was some minutes before a dense smoke arising from the island apprised the citizens of the true cause of the explosion, and that rose from the blowing up of a portion of the Laboratory, in all the departments of which were employed from three to four hundred females, ranging from twelve to twenty years.⁶⁹

⁶⁷ Carey, *American Firearms Makers*, 119, 129.

⁶⁸ Virginia Ordnance Dept. Payroll list, July 1862

⁶⁹ *Richmond Enquirer*, March 14, 1863. Accessed August 2014.

http://www.mdgorman.com/Written_Accounts/Enquirer/1863/richmond_enquirer_3141863.htm.

It is certain that many of the workers employed at the Richmond Armory would have seen and heard the massive explosion as it was close to the Armory and surely many would have known those affected by the explosion. One can imagine that many a female relative or acquaintance of an Armory worker either perished or was badly wounded by the massive explosion.

Just three weeks later the city experienced one of the worst riots of the Civil War. On April 2, a group of women “workers in the Confederate Ordnance establishments and wives of Tredegar Iron Works laborers”⁷⁰ (it is certainly possible that some may have been related to Richmond Armory workers), marched to the capital and demanded a meeting with Gov. Letcher. Rebuffed, the women marched towards the business district (near the Armory) and began rioting. By the time they reached their destination hundreds more had joined the women and as they descended on the downtown area, chants of “bread or blood” were heard as the mob stormed grocery stores, government warehouses, and mercantile establishments. In the end, a Richmond City Battalion was called out and the mob was dispersed. The riot made news as far away as New York as the *New York Times* ran a front page article about what became known as the Richmond Bread Riot.⁷¹ Somewhat of an embarrassment to the CSA, it highlighted the internal problems of a nation at war struggling with scarcity. Ironically though, April 1863 was one of the highest months of overall output of the Armory, with 1700 rifle muskets and 300 carbines being manufactured.⁷² In the aftermath of the CS Lab explosion, the bread riot and the following *New York Times* news story, were Armory workers more determined than ever to produce for the war effort? Or were many of them largely unaffected by both events as the majority of the skilled workers appear to be transplants from places outside of Richmond?

⁷⁰ Mary DiCredico, “Richmond Bread Riot.” Accessed August 2014.
www.encyclopedia.virginia.org/bread_riot_richmond.

⁷¹ *Ibid.*

⁷² Davies, *C.S. Armory*, 117.

In addition to being the Confederate capital, Richmond became a destination to many during the Civil War. “Wartime Richmond had become a city of strangers and camp followers, some with criminal intent. Many were war refugees, including farm families displaced from their homes and unused to city life under the best of conditions. Others were workers from the Federal armory at Harpers Ferry, who with their families had sought jobs at the new Confederate armory in Richmond,” according to Historian Michael Chesson.⁷³ In contrast to Chesson’s statement, it appears that many of the workers that came from Harpers Ferry were not necessarily war refugees in need of jobs but rather skilled workers who were put in place by James Burton for specific reasons. Also, the skilled laborers from Harpers Ferry knew one another to some degree and would most likely have been sympathetic to one another in this “new” urban setting. Noted technological historian, Merritt Roe Smith remarked in his book, *Harpers Ferry and the New Technology*, “As part of a larger rural culture, the armorers and townspeople of Harpers Ferry were deeply influenced by the intimacy and sense of involvement that flowed from a relatively unfettered, insular existence.”⁷⁴ Considering this, it is likely that the majority of skilled Armory workers looked at their newer urban lives in somewhat of an “us and them” scenario, workers transplanted by the CS Government to work in an urban setting miles away from the familiar Jefferson County, Virginia. That isn’t to say that they did not engage in relationships with Richmonders but that those relationships were limited. Regardless, while it is highly likely that Armory workers were affected by the Lab explosion and the Bread Riot in some capacity, these events do not appear to have a negative impact on the Armory and its production. Furthermore, as stated earlier, the majority of workers at the Armory would have felt a stronger connection

⁷³ Michael Chesson. *Harlots or Heroines? A New Look at the Richmond Bread Riot. The Virginia Magazine of History and Biography*, Vol. 92, April 1984, p. 137

⁷⁴ Merritt Roe Smith. *Harpers Ferry Armory and the New Technology: The Challenge of Change* (Ithaca: Cornell University, 1977), 329.

with the Armory itself, rather than the city as they were technically employed by the CS Government and many were put in their positions by James Burton. Regarding the Confederate raid on Harpers Ferry and the transfer of Harpers Ferry machinery in 1861, Smith notes

many of these refugees were unemployed armorers who left Harpers Ferry and never returned- a severe economic loss to the community. Their destinations varied. While a handful of Union sympathizers found positions at Springfield and other Northern factories, a majority of mechanics migrated south and went to work at the Richmond armory. There the superintendent as well as four out of five shop foremen were Harpers Ferry employees.⁷⁵

To make matters worse for Richmonders, by the summer of 1863, news reached the city that the Confederacy lost control of the Mississippi River as Vicksburg surrendered and in the opening days of July lost the battle of Gettysburg in Pennsylvania. In the following weeks, many workers were called away from the Armory for a number of weeks resulting in the production of merely 640 new arms in July.⁷⁶ The workers had been called to help defend the city as a result of Union General George Stoneman's raids around the city.⁷⁷ In August production began to increase again once workers had returned from the trenches surrounding the city but by the fall, production at the Armory began to suffer not from lack of labor or machinery, but from lack of material, particularly iron. The Armory produced approximately 400 new arms in the first half of September 1863 as it could not procure enough iron for sufficient barrel production.⁷⁸ Around this time, Burton traveled to England in the hopes of procuring materials for the production of Confederate arms. Along with the shortage of raw materials, the problem of logistics was also coming to a head. Even if Burton were able to acquire materials in England, there was then the

⁷⁵ Smith, *Harpers Ferry Armory and the Challenge of Change*, 320.

⁷⁶ Davies, *C.S. Armory Richmond*, 140.

⁷⁷ *Ibid.* 140.

⁷⁸ *Ibid.* 163.

risk of running the Union blockade to get the material into the Confederacy. This coupled with a general need for iron across the South compounded the production capability of the Armory. Between December 1863 and April 1864, Armory production averaged between 700-1000 new rifle muskets and carbines, down significantly from the year prior.

On March 2, 1864, Union Col. Ulrich Dahlgren led a raid on Richmond in hopes of freeing Union prisoners held in the city. Dahlgren was killed during the raid, and the Union soldiers were repulsed but not before a number of workers from the Richmond Armory and Tredegar Iron Works were called out as the home guard and were captured or wounded during the fight. This would prove costly to the Armory as one of its more skilled workers was killed during the raid. Salmon Adams gloomily conveyed the bad news,

8 March 1864- S. Adams, M.A., M. Armorer's Office to Maj. F.F. Jones in Command, C.S. Armory, Richmond, Va.- "Major, It is my duty to inform you that loosing John Jones, one of our barrel straighteners, who was killed in the late fight near Rich The No. of arms completed in this armory will be reduced nearly or quite three hundred and sixty (360) per month. It will take several months to educate a new man to this peculiar and difficult branch of work; and if there is a man in the army or else where who understands this work, would it not be well to make an effort to get him detailed for this armory. I beg to state further, that the late fight has produced disastrous results on this armory, and it will be a long time before we shall recover if we ever do. Our men are losing their interest in the armory from the first that in every raid around Rich they have been thrown in adv. of all other troops, and usually the last to be dismissed from duty. Dahlgren took about sixty of our men prisoners, and had he known they were armorers not a man would have escaped. It strikes me that the government should protect if possible this valuable class of mechanics."⁷⁹

It is evident in Adams' correspondence that the failed Dahlgren raid struck a massive blow to the Richmond Armory. Men that possessed unique skill and in-depth knowledge no longer felt valued or motivated (as evidenced by Adams' statement regarding armorers being called to active duty). In addition to the Dahlgren raid, Union General William T. Sherman's movements in Georgia cut off Macon from Richmond, and made the resupply of gun stocks to

⁷⁹ Davies, *C.S. Armory Richmond*. Adams-Jones letter, March 8, 1864, 199.

the Armory impossible. “Unfortunately for the C.S. Armory, Richmond the delays in receiving and desiccating the stocks and the advance of Union forces under Sherman were to cut off the Richmond Armory from the receipt of any more machined stocks from Macon for the remainder of the war.”⁸⁰ April 1864 saw the manufacture of 1103 new arms from the Armory but by July that number had dipped to merely 400 and a month later, in August, the Armory repaired 2100 rifle muskets, but manufactured no new weapons.⁸¹ The production of new weapons would continue but on a much smaller scale as the later months of 1864 brought little respite for the Armory workers. Sherman’s conquest of Atlanta would only serve to dampen the already low spirits of the workers. A September 19, 1864, article in the *Richmond Sentinel* reported an Armory employee attempting to escape to enemy lines.

CHARGED WITH ATTEMPTING TO GO TO THE ENEMY.- On Saturday, J.F. Taylor, an employee in the Arsenal, C. Algin, of the Medical Department, M. Ryan, of the Commissary Department, J. Head, of Captain English’s local company, and M. Dunnivant, citizen, were arrested, on the charge of attempting to go to the enemy’s lines. Having been arrested just below Rockett’s, near the city, the evidence of their intent to abscond was not deemed conclusive, and all of the party, except Taylor, were discharged. Taylor was put into the Castle [Castle Thunder].⁸²

By November, the Armory’s numbers were dwindling with many workers out manning the earthworks surrounding the city.

1 November 1864- Frank F. Jones, Major, Commanding Officer, C.S. Armory, Richmond on the October Form No. 30 received by James H. Burton, C.S. Armory, Macon- “During the present month 115 men from this Armory have been in the field, leaving 156 men, operatives for the fabrication of Arms for the month here reported.”⁸³

By the fall of 1864, the stocking machinery that had been in Macon had been moved to Columbia, South Carolina, but there were not enough workers on hand to erect the machines and

⁸⁰*Ibid.* 202.

⁸¹*Ibid.* 219, 225.

⁸²*Richmond Sentinel*, September 19, 1864. Accessed August 2014.

http://www.mdgorman.com/Written_Accounts/Sentinel/1864/richmond_sentinel_9_19_1864.htm.

⁸³Davies, *CS Armory*. Jones-Burton letter, November 1, 1864, 253.

manufacture any stocks and on November 11, 1864, Burton reported to Gorgas, “of 6 stock machinery workmen only 2 reported to Columbia Armory, South Carolina.”⁸⁴ The lack of available workers to the Richmond Armory as well as the stock shortage took their toll on Armory production, and in December only 400 new arms were manufactured.⁸⁵

January 1865 would see the last new arms manufactured at the Richmond Armory as stock stores were completely exhausted that month.⁸⁶ With the city besieged, Confederate officials thought it best to move the armory machinery out of Richmond and further South as the fall of Richmond seemed inevitable. In recent months nearly 50% of the Armory’s employees had been manning the city’s defenses, and production had dropped off significantly. It is probable that Confederate officials planned on moving many of the Armory’s skilled workers and armorers South alongside the machinery. Burton had been called to Richmond in February to discuss the “movement of the equipment of the Richmond Armory to a safe location in the South with former Armory Superintendent W.S. Downer’s Deep River, North Carolina facility the preferred destination point.”⁸⁷

On January 15, Fort Fisher, which stood guard over the entrance to Wilmington, North Carolina, fell to Union forces. With the fort in the hands of the Union, there were no longer any open ports to blockade-runners along the East coast.⁸⁸ The fall of Fort Fisher meant the supply of arms from abroad ceased. In February, Armory production was a mere 7 arms repaired. The Armory did produce 500 Carbine barrels which were bound for shipment to Columbia, South Carolina, but before they could be received there the Columbia Armory was in the hands of

⁸⁴ *Ibid.* Burton-Gorgas letter, November 11, 1864, 256.

⁸⁵ *Ibid.* 261.

⁸⁶ *Ibid.* 267.

⁸⁷ *Ibid.* 274.

⁸⁸ Vandiver, *Ploughshares into Swords*, 257.

Sherman's Union forces.⁸⁹ On the day that Sherman reached Columbia, Burton wrote to Gorgas regarding the removal of machinery from Richmond to North Carolina.

16 February 1865- Jas. H. Burton, Supt. & Inspectr. Armories, C.S. Armory, Richmond to Brig. Gen. J. Gorgas, Chief of Ordnance, Richmond- "General, In view of the possible removal of the Gun Barrel rolling machinery from Richmond Armory to the Deep River region of N.C. and of the fact that there is no rolling mill in that country of sufficient capacity to roll the bar iron required for making gun barrels, I respectfully recommend that steps be taken to construct a set of rolls, stands, gearing &c for that purpose, and to be erection in connection with the gun barrel rolling machinery when removed. In order to carry into effect these arrangements I respectfully recommend that Mr. Charles Campbell be assigned to the duty of making the necessary plans &c, he being familiar with the construction of such machinery. The first steps should be an inspection of the locality and a selection of the site on which to erect the works, to which end Mr. Campbell had better visit the region of Deep River as soon as possible."⁹⁰

Being a somewhat common name, the records do not reveal much about Charles Campbell, although one can be sure he possessed uncommon knowledge. Considering this it is entirely possible that he was someone Burton knew from Jefferson County in his days at the Harpers Ferry Armory, or simply a skilled worker who was hired at the Richmond Armory from elsewhere as the 1860 Richmond city directory does not list a Charles Campbell.

By March much of the Armory's machinery had been packed for shipment south but with much of the area either in Union hands or in danger of falling to the Union, the idea of successfully reestablishing an arms manufacturing facility seemed futile. It would all come to a close the following month as the city fell in the early days of April. According to Davies, some of the Armory machinery was shipped to Danville, Virginia, where it was captured by Federal troops weeks later while other machinery was left abandoned at the Armory. The Armory itself went up in flames during the fires that ravaged the city upon its capture. James Burton was

⁸⁹ Davies, *CS Armory*, 274.

⁹⁰ *Ibid.* Burton-Gorgas letter, February 16, 1865, 271.

captured in Macon, Georgia, on April 20 and was paroled the following month.⁹¹ Many of the Armory's workers took their skills and simply relocated following the war.

The Richmond Armory appears to be connected to the city of Richmond only in place. Those who worked within the Armory's walls appear to have been selected for one specific reason and that alone. If James Burton had been largely self-taught and had no connections like the ones that he seemed to have in Jefferson County, Virginia, perhaps the Armory would have been somewhat different and labor would have been more localized (and most likely not as efficient). But given the time period, the gunsmiths in and around Richmond were mostly cottage industries, constructing weapons individually and not geared towards maximum output. When Burton stepped into the role of Superintendent in 1861, he knew the armory system, essentially an early example of an assembly line. In order to maximize output, he knew that individual gunsmiths would not be sufficient and that what he needed were essentially engineers capable of setting up and operating arms making equipment. Drawing on his background in Jefferson County and at the Harpers Ferry armory, Burton was able to tap into and utilize labor he was familiar with and with that labor was able to build an organization specializing in arms manufacture. The bulk of that organization seems to have been "imported" labor and not homegrown. That is not to say that local Richmonders did not find employment at the Armory as it is certain many did, but more than likely only as laborers as the existing historical documents do not provide sufficient evidence of native Richmonders (or those living in the city prior to the war) working at the Armory. The Richmond Armory specialized in manufacturing small, sometimes intricate parts and assembling them into working machines, the transformation of raw materials into finished items for the war effort. Outside sources provided materials and labor, while the city of Richmond provided the place. This is not entirely surprising though as the

⁹¹ *Ibid.* 281, 295.

Armory was established somewhat haphazardly. With war looming it makes complete sense that there was an urgency to establish a facility and get skilled labor in place to create the maximum output of arms possible. Had the Richmond Armory been a local enterprise, rather than a government entity, in existence in the years prior to the outbreak of war, perhaps there would not have been a “mad scramble” to establish production and import labor. The contrast to this was just down the street.

CHAPTER TWO: THE TREDEGAR IRON WORKS

If the Richmond Armory’s workforce was largely based on labor “imported” from the outside (like the Harpers Ferry Armory), the Tredegar Iron Works was the opposite. Apart from being a larger facility and producing a much larger array of products, the Tredegar simply employed more people. The foundry was arguably a Richmond institution by 1861 and had a large labor force of skilled and unskilled workers from the city and its surrounding areas.

Richmond is unique when compared to other Southern antebellum cities because of its industry. The city’s location on the James River led to its “un-Southern” emphasis upon manufacturing, wrote Emory Thomas.⁹²

No other city south of the Potomac possessed more than a fraction of the nearly \$2 million worth of iron produced in Richmond in 1860. Joseph R. Anderson’s Tredegar Iron Works, the city’s largest and most versatile plant, had the only facilities in the South capable of producing cannon and railroad rails. Tredegar also led the way into other atypical Southern activities: the attraction of immigrants (mostly German and Irish) and the adaptation of slave labor to industry. Richmond ranked 13th among American cities in value of manufactures in 1860 and first among cities which soon after composed the Confederacy.⁹³

⁹² Emory Thomas, “Wartime Richmond,” *Civil War Times Illustrated* Vol. XVI No. 3, June 1977, 5

⁹³ *Ibid.* 5

The South's largest and most sophisticated iron foundry was situated along the banks of the James River very near the Richmond Armory. The Tredegar Iron Works was established in 1837 by various Richmond businessmen who sold the works in the 1840s to Joseph Reid Anderson, a West Point graduate, competent businessman, and future Confederate general.⁹⁴ Anderson was born in February 1813 in Botetourt County, Virginia. There does not appear to be much information on Anderson's early days but he would most likely have been familiar with metallurgy growing up in western Virginia during that time. "Iron manufacturers moved down the valley from Pennsylvania and Maryland and set up operations in places where they found the combination of good iron ore, limestone, water power, and abundant timber for charcoal."⁹⁵ By the time Anderson was born, Botetourt County already had three iron furnaces and would have three more by 1830.⁹⁶ Anderson attended West Point and then went on to serve as an engineer in the U.S. Army. He became assistant engineer to the State of Virginia in 1837 and a year later was chief engineer of the Valley Turnpike Company, where his responsibilities would have included the overseeing of bridge and road construction. Anderson would likely have had dealings with the Tredegar Iron Company in Richmond during his tenure in this position. In 1841, when the Tredegar neared bankruptcy, Anderson joined as a sales agent, and in 1848, he purchased the company. Under Anderson's control, Tredegar became one of the country's leading foundries in the 1850s (and certainly the largest in the American South).⁹⁷

⁹⁴ Charles B. Dew. *Ironmaker to the Confederacy: Joseph R. Anderson and the Tredegar Iron Works* (Richmond: Library of Virginia, 1966), 3

⁹⁵ Tom Pierce, "The Blackford Iron Workers." *VGAenWeb*. Accessed August 2014. <http://www.vagenweb.org/shenandoah/blackfordiron.html>.

⁹⁶ Raymond P. Hammond, "The Iron Furnaces of Botetourt County, VA," *The Iron Furnaces of Botetourt County, VA*. Accessed August 2014. <http://www.botetourtironfurnaces.com/furnaces.htm>.

⁹⁷ Civil War Interactive & Blue Gray Daily, "Joseph Reid Anderson: A Civil War Biography," *CivilWarInteractive.com*. Accessed August 2014. <http://www.civilwarinteractive.com/Biographies/BiosJosephReidAnderson.htm>.

Tredegar had been in operation prior to the outbreak of the Civil War, unlike the Richmond Armory, and therefore had a workforce in place in 1861. When the news of Fort Sumter reached Richmond on April 13, 1861, the city rejoiced in the events that had unfolded in Charleston harbor. “During Saturday evening the raising of a Southern Confederacy flag at the Tredegar Iron Works was made the occasion of a pleasant re-union of many friends of the Southern cause,” wrote the *Richmond Dispatch*.⁹⁸ The *Richmond Enquirer*, on the same day, wrote of

A procession that had swelled to about three thousand persons, by the time the column halted at the Tredegar Iron Works, to witness the raising of a large Southern Confederacy flag over the main building of the works, which was done by the employees of the establishment. Without delay, the flag was hauled up, the band playing the Marsellaise, and cannon (manufactured at the Tredegar for use of the Confederate Government) thundered a welcome banner of the South.⁹⁹

It is important to note that the foundry had already received contracts to build cannon for the CS government and was working to fill those orders prior to Virginia’s secession, Anderson had even reached out to the seceded state of South Carolina three months prior to the secession of Virginia by telegraphing C.G. Memminger, Secretary of the Treasury of South Carolina, that the foundry had some ordnance on hand and “Will make anything you want. Work night and day if necessary and ship by rail.”¹⁰⁰ This lends credibility to the fact that Tredegar workers (and Joseph Anderson) sympathized with the CS cause as they were working to arm the Confederacy and the fact that the workers raised the CS flag over the works. Additionally, the foundry was on the verge of receiving large contracts with war looming and workers would have been glad that the foundry was securing these contracts as it meant steady work for the foreseeable future.

⁹⁸*Richmond Dispatch*, April 15, 1861, 1. Accessed August 2014.

http://www.mdgorman.com/Written_Accounts/Dispatch/1861/richmond_dispatch_4151861e.htm.

⁹⁹*Richmond Enquirer*, April 15, 1861, 3. Accessed August 2014.

http://www.mdgorman.com/Written_Accounts/Enquirer/1861/richmond_enquirer_4_15_1861.htm.

¹⁰⁰ David Sabine, “Ironmonger to the South,” *Civil War Times Illustrated Vol. V No. 6*, October 1966, 17-18.

Prior to the outbreak of the Civil War, the Tredegar's Northern competition and lack of large-scale orders from Southern customers kept production below operating capacity. When the foundry was constructed in the late 1830s it was built to operate at similar capacities as other foundries in the U.S. (predominantly in the Northeast), however as the number of Northern foundries increased, combined with the influx of immigrants from Europe to that area to provide a cheaper labor force, Tredegar's full capabilities were not utilized. Had there been more demand for iron and iron items throughout the South the Tredegar might have been larger and possessed more capabilities by 1861. With war clouds gathering, the foundry began preparing for war-production. Following the election of Abraham Lincoln in November 1860, and the secession of South Carolina the following month, the management at Tredegar began getting things in order.

In January 1861, the partners undertook to double the ordnance and munitions capacity of their works. Laborers prepared individual patterns and flasks for cannon, shot, and shell and converted the facilities of the new car wheel foundry to ammunition production. Within a month after the receipt of South Carolina's first order, the works could turn out daily twice the previous amount of shot and shell.¹⁰¹

Anderson was in favor of secession early on and became convinced that Virginia should leave the Union quickly following Lincoln's election. In a letter to a former West Point classmate, in December 1860, Anderson wrote:

I believe the Union is practically dissolved and that we should address ourselves to the...subject of uniting the South. In my opinion Virginia will never willingly be separated from her sister states of the South. I believe a large majority of her people will come to the conclusion which I have arrived at (if indeed they are not already of that opinion) that there is an incompatibility in opinion between free and slave states- if you choose, an irrepressibility in opinion between them. What else do we learn from the past? Then let all good men and patriots look to the preservation of peace and an equitable division of the assets and liabilities of the old Firm and try it again in two separate confederacies. I hope we shall see a kind of feeling expressed toward Virginia in all the Southern states and rely on it- She will stand by the South.¹⁰²

¹⁰¹ Dew, *Ironmaker to the Confederacy*, 78

¹⁰² *Ibid.* Joseph Anderson to Maj. Daniel Leadbetter, December 11, 1860, 61.

With his allegiance to the South, Anderson knew that secession would most probably lead to war and war would lead to large Tredegar contracts equaling profits for the company. Having enough labor on hand to facilitate this kind of production three to four months prior to Virginia's secession reveals that Tredegar had not only a well-established labor force but also that additional labor could be recruited from the city itself in relatively short order. Considering the fact that the Tredegar was the most advanced iron foundry south of the Potomac, a job at the foundry was likely a desirable job to have for the average worker. It was certainly one of the larger employers of workers in the city. As a state-of-the-art foundry for the time, and with quickly-mounting orders to fill, the demand for general labor as well as skilled workers at the foundry would have been high and certainly those seeking employment would have viewed job opportunities there as stable (as there would be demand for the foreseeable future), and as a potential way to avoid CS service, should hostilities warrant. In late February 1861, Confederate agent Ralph Semmes wrote that, in historian Charles Dew's summation, "Tredegar was a large, well-appointed establishment, employing seven hundred men and possessing 'great facilities for founding cannon and casing shot and shell.'"¹⁰³ If the foundry did, in fact, employ 700 men in February, it is certain that the majority of them resided in Richmond or the surrounding area, as this was penned by Semmes nearly two months prior to Virginia's secession. It is important to note, though, that while many of the Tredegar workers lived in the city, certainly a number of them would have considered the impending conflict and weighed their options. They may have felt some degree of loyalty to the Southern states during the early part of 1861, but they would have realized that they could take their skills elsewhere and leave the city. On April 11, a Tredegar manager by the name of J.M. McCarthy left for St. Louis and took some of the

¹⁰³ *Ibid.* 80

foundry's Irish workers with him.¹⁰⁴ As a result of this (and of others leaving the foundry around the same time), Tredegar placed ads in local newspapers and even contracted the *Baltimore Sun* to run classified advertisements for skilled workers in hopes they would be tempted to come to Richmond for employment at the foundry. The Tredegar requested one R.J. Capron to "have the annexed advertisement inserted in the Balt Sun or some other paper that reaches the working class of your City."¹⁰⁵ Tredegar management might have played on the anti-Union sentiments of people of Baltimore, as the city saw rioting following President Lincoln's call for 75,000 men to put down the CS rebellion.¹⁰⁶ With war looming and many fleeing from the state, skilled workers were certainly giving thought to the value of their specialized skills and their loyalties to their state and nation. "Anderson's reliance on skilled workers from the North and Europe was now a serious liability. During the war the ironworks would become more dependent on slave labor than ever before as workers left for the North while a crush of Confederate contracts strained the capabilities of the mills."¹⁰⁷ Black workers had been in the employ of the Tredegar since well before the Civil War but not on the wide scale that they were during the war years. In 1847, white laborers went on a massive strike in protest against slave labor being used at the foundry. Many of the workers (who were Northern-born or European immigrants), feared that they might eventually be replaced by slaves trained to the skills that the workers now possessed.¹⁰⁸

Anderson responded by relieving all strikers of their jobs and further utilizing slave labor in Tredegar production. The majority of slave labor used at the foundry would most likely have been hired from slave owners on the outskirts of the city and its surrounding counties. Slave

¹⁰⁴ Kimball, Greg D. *American City, Southern Place: A Cultural History of Antebellum Richmond* (Athens: University of Georgia Press, 2003), 233.

¹⁰⁵ *Ibid.* Joseph Anderson and Co. to R.J. Capron letter, April 16, 1861, 233

¹⁰⁶ "The Pratt Street Riot," National Park Service. Accessed December 2014.

<http://www.nps.gov/fomc/historyculture/the-pratt-street-riot.htm>.

¹⁰⁷ Kimball, *American City, Southern Place*, 233

¹⁰⁸ "White Laborers Went on Strike Over Slave Workers, May 1847," Library of Virginia. Accessed September 2014. http://viriniamemory.com/online_classroom/shaping_the_constitution/doc/tredegarstrike.

labor was contracted for various lengths of time during which laborers were boarded at the foundry itself. While in the employ of the foundry, slave laborers would live at and around their workplace, making social connections with co-workers and Richmonders who lived in the surrounding area. The Tredegar letter books list over 120 “negroes hired” as of January 1, 1862, with the majority of them appearing to work in the rolling mills. The majority of the blacks listed were hired by the foundry one at a time, that is, one worker was contracted from one owner, as the nearly half of Virginia’s slaveholders in 1860 owned fewer than four slaves.¹⁰⁹ The average rolling mill worker’s master was paid one-hundred dollars for the duration of their time at the foundry, which was usually a year. Large numbers of slaves were provided to the foundry by brokers, or “agents,” acting as intermediaries between slave masters and the foundry. Ten Negro workers were contracted from “Tabb & Son,” who are listed in the 1860 City of Richmond business directory as General agents on 14th and Franklin Streets. Of these ten Negroes, eight of the ten are listed as workers at the rolling mill and were contracted at a rate of one hundred dollars, while one foundry worker is listed at ninety dollars. An enslaved blacksmith by the name of Junius was contracted by Tabb & Son, for one-hundred and fifty dollars. A Dr. Edgar Archer appears to have hired out four of his slaves, Austin, Mas, Patrick, and Jeff, to work at the foundry, Mas at a rate of two-hundred and fifty dollars. It appears that he (and the others) all worked in the rolling mill. Dr. Edgar Archer does not appear to be of any immediate relation to Joseph R. Anderson but lived across the river from Richmond in Manchester.¹¹⁰ Another individual whose name appears prominently on the list was a Dr. H. Hancock, who hired out five slaves to the foundry. Neldon, Stephen, Dick, Joe, and Charles were all bonded at one-hundred

¹⁰⁹ Willis, John C., “America’s Civil War Tables,” U.S. Census Office, Eighth Census (1860), *Agriculture of the United States in 1860*, Washington DC, 1864. Accessed November 2014.

http://static.sewanee.edu/faculty/willis/Civil_War/tables/slaveHolders1860.html.

¹¹⁰ Dr. Edgar Archer, Find a Grave. Accessed November 2014. <http://www.findagrave.com/cgi-bin/fg.cgi?page=gr&GRid=14899418>.

dollars per ½ year to work in the rolling mill. The 1860 Virginia Slave Schedule lists a Dr. Hancock of Henrico Co. and research indicates that this was likely the same Dr. Hancock who hired out some of his slaves to the Tredegar in 1861.¹¹¹ An E.D. Eacho, General contractor, at 14th Street, between Main and Franklin Street, appears to have hired out four Negroes to the foundry at bond rates of between sixty and one hundred and ninety dollars. These workers filled various positions in the rolling mill. A number of other general agents listed in the 1860 city director appear to have hired out Negroes to the foundry, such as Cocke & Close (14th Street), and Thos. Bagby (8 Wall St.).¹¹² The last agent listed, Thos. Bagby, hired out sixteen workers to Anderson in November 1861. Bagby himself recorded the agreement,

Richmond, Nov. 9, 1861

I have this day hired to J.R. Anderson & Co. the following Negro men which are sound and healthy for the balance of the year at five dollars per week, I[?] boarding and clothing said Negroes: and it is further agreed that J.R. Anderson & Co. have the option at the end of the year of reelung [illegible] either or all of the said Negroes for the year 1862. They paying a hire of one hundred dollars each and to board and clothe there, and for the two Blacksmiths such wages as may be agreed upon after trial. The negroes to be furnished on the first of the year with customary clothing.¹¹³

Professor Anne Kelley Knowles wrote that, “Like many other ironmasters, Anderson yearned for a skilled workforce that would stay put; in the Southern context, that meant slave labor.”¹¹⁴ The hiring of slave labor to work at the foundry was one way that managers attempted to stem the flow of the labor because laborers leaving Virginia for the north was only part of the problem.

¹¹¹ Vern Jackson, Ronald. *Virginia 1860 Slave Schedule* (Salt Lake City: Accelerated Indexing Systems, 1990), 513.

¹¹² Richmond City Business Directory, 1860. Accessed November 2014.

http://www.mdgorman.com/Written_Accounts/Richmond%20City%20Business%20Director1.pdf.

¹¹³ Tredegar Letterbooks, Thos. Bagby to J.R. Anderson & Co. November 9, 1861

¹¹⁴ Kelly Anne Knowles, “Labor, Race, and Technology in the Confederate Iron Industry,” *Technology and Culture* Vol. 42, No.1 (2001), 12

Almost immediately following Virginia's secession there was an outpouring of enthusiasm to join the CS Army, including among many Tredegar workers. "The rush of Tredegar operatives to volunteer for military service was a major source of trouble during the early months of the war. The most skilled cannon rifler left the works as a militia volunteer in late April, and ten days later the entire force of ten blacksmiths working on iron gun carriages enlisted as a unit."¹¹⁵ To help curb this problem, Tredegar organized a battalion of soldiers who were regular workers at the foundry in April 1861, almost immediately following Virginia's secession. Dew wrote, "The management found their most effective tool for retaining skilled native-born workers at the outset of the war was the Tredegar Battalion."¹¹⁶ Perhaps this organization was simply part of an attempt by Anderson to play to the patriotic emotions of some of his worker and allow them to feel they were doing something to contribute to the cause as many did not join the CS Army as their skills were needed at the foundry. It is also important to consider this as a preemptive move by Anderson. Sensing that conscription was inevitable, and exemptions for CS workers had not been granted yet, the organization of a military unit within the foundry would have appeared to be a nod towards CS service when needed, while retaining his essential labor force. The Tredegar Battalion's officers were elected from within the unit and the unit itself was made up largely of Tredegar workers conscripted to serve in the battalion. The conscripts ranged in age from as young as sixteen to as old as fifty (although many of the older workers were listed as "reserves"). According to the Compiled Service Records at National Archives, at least thirteen of the workers conscripted into the Tredegar Battalion are listed as "residing in the Richmond or Manchester areas." Richard O'Brien, who was a blacksmith at the Tredegar, resided on 3rd Street, and Benji Baughan, a moulder, was listed as residing on

¹¹⁵ Dew, *Ironmaker to the Confederacy*, Anderson & Co. to Gov. Letcher letter, April 22, 27, May 6, 15, 1861 and to Capt. L. Bossieux, May 8, 1861, Tredegar Letterbooks, 92.

¹¹⁶ *Ibid.* 94

“Gamblers Hill” [Gambles Hill]. The source listing Baughan’s residence was a parole slip, and it is certain that the Union officer signing off on it was likely unfamiliar with areas around Richmond and simply listed “Gamblers Hill.” Among the others listed on the muster rolls, many appeared to be local to the area, and Professor Anne Knowles states that, “Virginians accounted for 63 percent of Tredegar Battalion members of known origin, men from the rest of the South scarcely 5 percent.”¹¹⁷ The following individuals appear on Tredegar’s muster rolls and either appear on the Muster rolls or the 1860 Federal Census as residents of Richmond, or the surrounding areas of Henrico County, or Manchester.

Benjamin Atkins, 24- conscript, Henrico County
Samuel Conway, 38- conscript, Henrico County
Patrick Finnessee, 46- reserve, Henrico County
James Kane, 23- conscript, resides in Richmond or Manchester
J.E. Kirkley, 36- conscript, resides in Richmond or Manchester
Fred C. Kragle, 36- conscript, resides in Richmond or Manchester
Henry Kragle, 27- conscript, resides in Richmond or Manchester
William Landsum, 50- “over age”, resides in Richmond or Manchester
Jesse McDonald, 41- conscript, resides in Richmond or Manchester
John Moffatt, 32- conscript, resides in Richmond or Manchester
A.G. Osterbind, 43- conscript, resides in Richmond or Manchester
Moses Quarles, 31- conscript, Henrico County
Elijah Priddy, 39- conscript, resides in Richmond or Manchester
John Priddy, 39- conscript, resides in Richmond or Manchester
William Priddy, 46- reserve, resides in Richmond or Manchester
Henry Stockman, 26- reserve, resides in Richmond or Manchester

It is interesting to note that two individuals who are likely related appear on the muster rolls.

William and J.T. Gentry’s names are present but sources disclose that William “deserted” and J.T. “entered army in June 1864.”¹¹⁸ The 1860 Federal Census lists a William Gentry and a James Gentry as living in Henrico County. Some of the older workers would have had families living with them and they appear as Richmond city or Henrico County residents prior to the

¹¹⁷ Knowles, “Labor, Race, and Technology in the Confederate Iron Industry,” 19

¹¹⁸ National Archives: Compiled Service Records of Confederate Soldiers Who Served in Organizations from the State of Virginia, Roll 452.

outbreak of the war, so many of these people were not transplanted. The battalion officers who appear most often on the muster rolls are P.S. Derbyshire, John C. McDonald, James T. Neale, and Robert Pettis. Of these four officers, three are listed as residents of Henrico County in the 1860 Federal Census (Neale appears to be from King William County). John McDonald was the aforementioned cannon rifler that had worked at the foundry for years, who joined the militia almost immediately following Virginia's secession.

Once a man had enlisted, the Tredegar management found the process of regaining his services difficult and tedious. The cannon rifler, John McDonald, who had worked at the Tredegar for many years, was the object of extended correspondence following his April enlistment. After Anderson and Company dispatched letters to Governor Letcher, Major General Robert E. Lee, the Adjutant General of the Confederate Army, and Major Josiah Gorgas, chief of the Ordnance Bureau, McDonald was discharged on July 15 and returned to the works.¹¹⁹

The Tredegar Battalion can be seen as somewhat of a symbolic organization as their value as workers was arguably more important than their value as soldiers. "While this battalion was in ardent support of the Confederacy, it was made up of laborers and mechanics that were still primarily responsible for iron production. The use of iron workers as iron producers versus Battalion members continued to be an ongoing battle between the Secretary of War and Gen. Anderson, but the production of iron was the primary concern."¹²⁰

Around the same time some Tredegar workers left for the North, and the company placed classified advertisements in local newspapers to replace them and by May, the foundry force had gone to a seven-day work week. Production had ramped up to war speed at the Tredegar. With a growing number of orders pouring in from the Confederate government, the foundry was faced

¹¹⁹ Dew, *Ironmaker to the Confederacy*, Anderson & Co. to Letcher, May 15, 1861, to Gen. R.E. Lee, May 15, 1861, to Col. George Deas, July 8, 1861, and to Maj. Josiah Gorgas, July 8, 1861, Tredegar Letterbooks, 93

¹²⁰ Ted T. Squyres. "The Tredegar Logistical Support in the American Civil War", 18. Accessed November 2014. <http://www.dtic.mil/dtic/tr/fulltext/u2/a217550.pdf>.

with a labor shortage. This was related to several contributing factors. Some of the Tredegar's labor force was either foreign born or from the North and fled the city as the war was beginning, and there was also competition from other iron foundries and shops around Richmond.

The crush of military orders that descended on the Tredegar and Richmond's numerous smaller foundries and machine shops quickly increased the demand for experienced operatives and the demand grew even more when the government's shops began production. The Virginia State Armory (Richmond Armory), soon to be transferred to the Confederate government, the Confederate Arsenal, established in a group of tobacco warehouses near the Tredegar, and the ordnance works of the army and navy competed among themselves and with private companies for an insufficient number of qualified artisans.¹²¹

One way that the foundry attempted to combat this problem was by utilizing the work of young apprentices. As boys, they were capable of being trained and did not have the mobility that an older, more skilled artisan would have had. "In the first year of the war, some fifty youths were apprenticed to various departments, almost three times the number taken between 1859 and April 1861."¹²² Also, 22 more slaves were hired to work in the foundry with slave labor compromising 10 percent of the total labor force at the Tredegar by the end of 1861.¹²³ As noted earlier, it appears that much of the slave labor contracted to the foundry was local to the area, that it is safe to conclude that the youths working at the foundry would have been as well.

That September, Joseph Anderson was made a Brigadier General in the Confederate Army and for the remainder of the year would be dispatched elsewhere in Virginia.

Around the same time, a group of Irish workers went on strike and threatened to seek employment at the Richmond Armory if their demands were not met. This occurred at the same time that the Armory was nearing production status (the first arms rolled out of the Armory in October) so the Irish workers could assume they could find employment there. Fearing that the

¹²¹ Dew, *Ironmaker to the Confederacy*, 91

¹²² *Ibid.* Tredegar Archer account book, 91

¹²³ *Ibid.* 91

loss of their skilled labor would hinder production at such a critical time, Anderson agreed to a pay raise.¹²⁴ While some iron workers in the city did attempt and on occasion did find work in the Armory, by comparison, to Tredegar, the Armory simply lacked the same demand for ironworkers that the Tredegar did (or other Richmond iron foundries) as it was not manufacturing the array of iron products that foundries were. Considering the fact that many of the Tredegar's regular artisans left on the eve of the war and others looked for employment elsewhere (or threatened to), the number of slaves working at the foundry grew.

That December, the Tredegar Battalion participated in a parade through the city, likely as a show of strength, as the city was beginning to feel the strain of the first winter of the war. The *Richmond Dispatch* reported on December 28, "the fine body of soldiers, composed of men employed at the Tredegar Foundry, and commanded by Major R.S. Archer, paraded yesterday morning- the appearance of the corps was highly creditable."¹²⁵ The Major that the Dispatch mentions as leading the battalion on parade was Robert Samuel Archer, who was Joseph Anderson's brother-in-law.¹²⁶ The son of iron foundry owner and physician, Dr. Robert Archer, Robert Samuel Archer was born in Virginia in 1829 and according to the 1850 US Census, was an "iron manufacturer" in the city of Richmond.¹²⁷ Considering his background in iron manufacturing, Archer would have been a valuable employee to Anderson. Dr. Archer (R.S. Archer's father), brought his iron rolling mill into partnership with Anderson and the Tredegar in 1859, so aside from R.S. Archer being a competent ironworker and manager (as he was listed as

¹²⁴ *Ibid.* 91

¹²⁵ *Richmond Dispatch*, December 28, 1861. Accessed November 2014.

http://www.mdgorman.com/Written_Accounts/Dispatch/1861/richmond_dispatch_12_28_1861.htm.

¹²⁶ Biographies, "A Guide to the Tredegar Iron Works Records, 1801-1957", Collection in the Library of Virginia (Richmond: Library of Virginia, 2004). Accessed November 2014.

<http://ead.lib.virginia.edu/vivaxtf/view?docId=lva/vi00494.xml;query>.

¹²⁷ Chappell, Eppes, Ribble, Strobel, and Horne, Briggs, Lindamood, Pedneau History and Genealogy, "Robert S Archer". Accessed November 2014. <http://thehornes.us/Family/g1/p1155.htm>.

a manufacturer), Anderson would have wanted to help secure the Archer's place within his company.¹²⁸

In 1861, Anderson was elected as a representative of his home county of Botetourt in the House of Delegates, and later that year, became a general in the Confederate Army, so it was commonplace for him to be away from his foundry in the early stages of the war.¹²⁹ Having both Archers on staff at the foundry would have given Anderson peace of mind during these times. Another significant personality that factors into the Tredegar is John F. Tanner. Charles Dew chronicles this well

John Tanner held a position second only to Anderson in the management of the sprawling Tredegar establishment. Tanner, forty-five years old and a native Virginian, had been associated with the works since 1843. He was Anderson's first bookkeeper and later became superintendent of the rolling mill. The two men developed a close friendship and the Tredegar head had a high regard for Tanner's business acumen.¹³⁰

Tanner's nearly twenty-year association with the foundry would have put him in an important position at Tredegar at the outbreak of the war, when Anderson went off to serve as a general in the C.S. Army.

At the outset of the war, it appears that another one of the foundry's significant problems, in addition to much of the skilled labor fleeing north, was attaining raw materials to fill the larger orders coming in. Following his short stint in CS armed service, Anderson returned to the Tredegar in 1862 at the urging of Robert E. Lee because he was more valuable to the Confederacy running his foundry than in the field. Anderson's resignation stated,

There is reason to fear that we shall soon be without fuel unless we make arrangements to mine coal. Since these changes have occurred I cannot doubt as to where I can render most service to the Country for [?] could I do otherwise than to give my personal attention to the works, after having been notified, as I have been, by the Gentleman left in

¹²⁸ Dew, *Ironmaker to the Confederacy*, 96-97

¹²⁹ *Ibid.* 100

¹³⁰ *Ibid.* 15

general charge, that he cannot continue to discharge the duties without my personal attention.¹³¹

Upon his return, Anderson set himself to helping supply his foundry with much-needed raw materials. He acquired blast furnaces in the western part of the state to supply pig iron, he purchased mines and assembled a fleet of canal boats to bring coal to Richmond (via the James River and Kanawha Canal).¹³² By controlling, transporting, and overseeing the production at the Tredegar, Anderson reestablished himself as the head of the foundry. Also in early 1862, the Confederacy realized the dire need of iron for its railroad infrastructure as the armories and forts scattered across the South needed reliable transportation and communication along with the ability to move ordnance and men quickly.

The Tredegar was unequipped to meet some of the railroads' requests. The works had not manufactured a locomotive since 1860 and the machinists and boiler makers were now preoccupied with more pressing orders. The foundries were engaged almost totally with ordnance work, and the new car wheel foundry, converted to ammunition production during the rush to outfit South Carolina for the Sumter bombardment, was working night and day to supply Confederate armies. Tredegar carpenters, formerly freight car builders, now devoted their skills to the manufacture of gun carriages.¹³³

From this excerpt, it is clear that many of the workers had been manufacturing railroad equipment in peacetime Richmond, indicating that they were employees of the foundry prior to the outbreak of the war. Unlike a gunsmith of the era, who would have been in business for himself at the time, these artisans were already employed at a large production facility and their service there was essential to the continued output of products. The man who worked at the foundry's rolling mill was manufacturing an essential material for use in the finished product, whereas the artisan gunsmith albeit able to build a custom rifle from top to bottom, would have

¹³¹ Anderson to Gen. Cooper letter, July 14, 1862. Accessed November 2014.
http://www.mdgorman.com/Written_Accounts/NARA/joseph_r_anderson_csr.htm.

¹³² Dennis M. Hallerman. *The Tredegar Iron Works: 1865-76*, M.A. Thesis, University of Richmond, 1978, 3.

¹³³ Dew, *Ironmaker to the Confederacy*, 127.

little idea of how to use the then-new machinery being utilized at the Richmond Armory, where proficiency focused on interchangeable parts and maximum output.

In addition to the problems presented by scarcity of skilled labor and raw materials, another significant problem facing the Tredegar was supporting its workers and, in many cases, their families. To attract workers in Confederate Richmond, Anderson had to offer benefits beyond money, the value of, which was ever-inflating. “The total labor force dependent on the Tredegar would soon number over two thousand free and slave workers, plus their families. The management set a ration of six to seven pounds of beef or three pounds of bacon and one and one-half pecks of corn mean per man per week.”¹³⁴ The foundry acquired these supplies from as far away as the surrounding states of Tennessee and Kentucky towards the end of 1862 and early 1863. “Over two thousand hogs were butchered at the Tredegar plant and furnaces in December 1862 and the meat was sold to free workers at cost. Slaves were fed at company expense but could buy extra meat with their overtime wages if they so desired.”¹³⁵ The fact that free Tredegar workers had to pay for meat would likely not have been an issue for an employee, for just having access to it nearly two years into the war would have been a benefit. For some slave owners in the Richmond-area, the hiring of one or more slaves to Anderson’s foundry would have been attractive not only from a financial standpoint but from a practical one too, as scarcity was a significant wartime issue, plaguing everyone, not simply the middle and lower-classes. As the war dragged on, and the Confederacy became more and more desperate for men and supplies, the problem of supplying workers and their families with food would add to the foundry’s list of problems. Considering these points, it is sensible that Joseph Anderson utilized exploitable slave labor more and more during the course of the war. Slaves could generally be hired more cheaply

¹³⁴ *Ibid.* 154

¹³⁵ *Ibid.* Entry for March 1863, Tredegar Daybooks, 156

than white, or free labor, slaves would have been working at the foundry individually, having been hired out by their owners, rather than living at the foundry alongside their families, leaving the Tredegar management with fewer mouths to feed, and while slaves did serve in the Confederate Army, they were not subject to being drafted into Confederate armed service. A proponent of slave impressment, at one point during the war, Anderson petitioned the CSA government to procure “privately owned slaves for iron production work and guarantee their protection.”¹³⁶ Slave labor in an urban setting such as Richmond was more desirable to many slaves in the region, as opposed to working on surrounding plantations. Often slaves working at a place like Tredegar had a degree of autonomy after they had completed their work for the day and were able to make money doing other jobs when not at the foundry. The fact that slaves at the foundry did not cost the company as much as white labor, did not come with extra mouths to feed (families), and were not subject to military impressment as the majority of white males were, would have, made slave labor attractive to Anderson and his Tredegar managers. As the war dragged on and the number of slaves working at the foundry and the foundry’s furnaces increased, often conditions, for them, worsened and as a result, several attempted escape. In June 1863, a number of slaves escaped from one of the Tredegar’s furnaces in Botetourt County.

The firm definitely believed these men were attempting to head north. The management was also growing increasingly concerned over the uncooperative attitude of the slaves at the Tredegar plant. “The demoralization among the negroes here and at our furnaces is a source of much disquietude to us who have contracts with the government for iron on the faithful compliance of which the fate of the country may depend. We are sure that here and at all of our furnaces, the negroes are humanely treated, well fed, and clothed as well as can be done at present and we know of no reason why they should run off except to get to the enemy. Recently, several have been captured nearly within the enemy lines.”¹³⁷

¹³⁶ Kyle M. Benn. *Hiring, Impressment, and Empowerment: The Slave Experience in Richmond’s Iron Industry, 1847-65*, March 2011, 2. Accessed November 2014.
http://www.academia.edu/869251/Hiring_Impressment_and_Empowerment_The_Slave_Experience_in_Richmond_s_Iron_Industry_1847-1865.

¹³⁷ Dew, *Ironmaker to the Confederacy*, Anderson to R.C. Dabney letter, June 24, 1863, 255-256

There were some slaves who rose to important positions within the Tredegar, one such example is that of William Brackens. Brackens was a boatman who worked for the foundry piloting the canal boats from the western part of the state to Richmond via the Kanawha canal. In June 1863, during one of his trips, Brackens was arrested as per one of the Confederacy's slave impressment acts and forced into CS Service. "Brackens was arrested and put to work in Richmond's fortifications by the Confederate government. Meanwhile, raw iron accumulated on the banks of the small creeks of western Virginia because Brackens was the only boatman who could navigate the waters."¹³⁸ After much correspondence with the CS government, Anderson secured Brackens' return to his employ. This is a prime example of how slave labor (in this case, particularly William Brackens) proved essential to Anderson during the war, especially by 1863.

To compound the problems facing the foundry, throughout 1863 Federal troops operating in the western part of the state laid waste to some of the blast furnaces that the Tredegar depended on for materials. During these raids, valuable resources were destroyed, slaves escaped, and livestock was captured.¹³⁹ Often, the pig iron produced at these furnaces was inadequate but with wartime scarcity, the foundry used what it could. Charles Dew summed up the Tredegar's problems well:

The pool of skilled labor from which managers, founders, and other vital personnel had to come was quite small at the opening of the conflict and was further decimated by the emigration of Northern-born ironmasters and the military mobilization of Southern management. When war engulfed the South, the company possessing the widest business experience in the Confederacy, backed by the resources of the government, could do very little to close the raw materials gap. The work of decades could not be accomplished in a few strife-torn years.¹⁴⁰

In addition to the myriad of difficulties that the Tredegar was experiencing by 1863, the explosion of the CS Laboratory on Brown's Island in March would have had a significant impact

¹³⁸ Benn, *Hiring, Impressment, and Empowerment*, 13

¹³⁹ Dew, *Ironmaker to the Confederacy*, 165

¹⁴⁰ *Ibid.* 176

on the Tredegar workers. Aside from the close physical proximity of the foundry to Brown's Island, many Tredegar workers would have had connections with the women affected by the explosion. The majority of women who worked in the lab were in their teens and twenties and would have been wives, daughters, friends, and acquaintances of Tredegar workers. Mary Ryan, the eighteen year-old responsible for the initial explosion at the laboratory, lived with her father in Oregon Hill. Many Tredegar workers lived in the Oregon Hill area. It was a working-class, immigrant neighborhood, close to the foundry and also to Brown's Island. Many of the names of the deceased are indicative of their probable-immigrant status. Mary O'Brien, Martha Daley, Catherine McCarthy, and Ellen Sullivan were among the more than thirty women who perished in the explosion, while women like Catherine Cavanaugh, Mary McDonnell, Ellen O'Brien (possibly a relation to the deceased Mary O'Brien), and Mary Ryan (who caused the initial accident) were among the wounded.¹⁴¹ Many of these workers (at the Tredegar and CS Laboratory) were certainly acquainted with one another via sharing the same living spaces and jobs. Richmond historian Mary Wingfield Scott stated about Oregon Hill, "If one runs through the 1856 directory one finds that many of the hundred and eighteen people listed as living there were puddlers or moulders in the nearby Tredegar or Armory Iron Works."¹⁴²

Another significant 1863 event that had potential effects on the foundry was the Bread Riot, which occurred just one month following the CS Laboratory explosion. The scarcity of foodstuffs by 1863, combined with the tremendous amount of inflation caused thousands of local women to march, protest, and riot in parts of the city. Many of the rioters were, "predominantly wives of workers at the Tredegar Iron Works and working women from a clothing factory,

¹⁴¹ *Richmond Daily Dispatch*, March 16, 1863. Accessed November 2014.
<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A2006.05.0698%3Aarticle%3Dpos%3D11>.

¹⁴² Mary Wingfield Scott, *Old Richmond Neighborhoods* (Richmond: William Byrd Press, 1950), 210

although some came from the upper classes.”¹⁴³ The fact that the Bread Riot included women from varied social classes is indicative of the impact that two years of war had on Richmond. Another event that compounded the hardships of Tredegar workers came in May, when a fire broke out at the Crenshaw Wool Mill that spread to a portion of the foundry and damaged the foundry’s pattern shops. *The Daily Dispatch* reported on May 16th

The loss of the pattern shops, it is presumed, will be rather heavy, owing to the difficulty in replacing patterns. A large number of hands were yesterday at work clearing away the rubbish, and rescuing the machinery from the ruins. The loss to the proprietors of the works will be very heavy, and the delay in manufacturing guns will, to some extent, be felt by the Government; but, as stated, it is not thought that this delay will be protracted beyond a few weeks.¹⁴⁴

The fire was miserable news to a city weary from over two years of war and that had just experienced the Brown’s Island disaster and the Bread Riot.

For the first two years of the war, slaves at the Tredegar were mostly engaged as laborers in the rolling mills, workers on canal boats, or were used at Anderson’s furnaces in western Virginia. By the end of 1863 Anderson’s pool of skilled workers was thin enough that he began using slaves in his machine shops.

Ten or eleven Negroes labored in the machine shops in 1863 and 1864, the first time slaves had worked there. During the same period, twenty-five or thirty slaves worked in the foundry, and a Negro engineer was placed in charge of a steam engine when a white laborer quit the job because the owners refused to raise his wages. Fifty-two slaves, including blacksmiths, strikers, and helpers, twelve free Negroes, and twenty-seven whites compromised the smith shop force in February 1864.¹⁴⁵

So as the war continued, it is apparent that the white labor pool was drying up for various reasons forced Anderson to rely more and more on slave labor. One of Anderson’s own slaves, a

¹⁴³ Blair, *Virginia’s Private War*, 74

¹⁴⁴ *The Daily Dispatch*, May 16, 1863. Accessed November 2014.
<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A2006.05.0698%3Aarticle%3Dpos%3D11>.

¹⁴⁵ Dew, *Ironmaker to the Confederacy*, Anderson to Morton, de Bree, and Brown letter, November 5, 1864, 262

man by the name of Ed Taylor, was a skilled blacksmith, and the foundry paid Anderson for the use of Taylor.¹⁴⁶

By 1864, the problems of scarcity began to take their toll on the Tredegar. The fact that there was not enough skilled labor to operate at full capacity, the fact that there were not enough resources, like pig iron, hindered the capabilities of the foundry, and inflation and lack of food had a demoralizing effect on the Tredegar's workforce. "From a total of 128 weapons cast during the first six months of 1864, output dropped off to 85 pieces during the last half of that year and, most serious of all, these guns were of highly questionable quality."¹⁴⁷ By the end of 1864 it was becoming clear that the output and quality of equipment had declined. The quality control of the western Virginia furnaces was in decline (as referenced earlier), as they struggled against material scarcity and continued Union raids in the Shenandoah Valley. The work ethic and quality-control of Tredegar workers was declining as evidenced by the finished products referenced by the foundry in its books. In a way Tredegar production was dying with the Confederacy. As the problems of the war worsened, so then, did the problems facing the foundry. By 1864 Tredegar workers, in addition to the hardships endured at the foundry, began to be regularly called out for service defending Richmond, and the Tredegar Battalion went from being a token of the foundry's support for "the Cause," to a real military force. This caused production at the Tredegar to decline even more. The Battalion had suffered its first combat losses during the Dahlgren raid, in March. "Grant's drive on Richmond forced Confederate authorities to call at least a portion of the battalion into the field during every month from May to December 1864. The bulk of Tredegar's free laborers spent almost the entire month of October in the earthworks circling the city and production, especially of ammunition, dropped off sharply

¹⁴⁶ *Ibid.* 263

¹⁴⁷ *Ibid.* Tredegar Gun Foundry Book, 280-281

at the works.”¹⁴⁸ To make matters worse, some Tredegar mechanics serving in the field deserted to the Union.¹⁴⁹ Their reasons ranged from the hardships of the city by 1864, the futility of their jobs considering inflation, rapidly decreasing production, lack of food, and general demoralization. Other workers desiring to defect to the enemy were not so lucky. Local newspapers chronicled their escape attempts. “CAUGHT GOING TO THE YANKEES- The following named parties, operatives at the Tredegar Works, were, on yesterday, captured near Bottom’s Bridge, while making their way to Yankee lines: T. Evans, Tom Jones, John Paul, Geo. Smith, and F.A. Howell. They are committed to the Castle [Castle Thunder].”¹⁵⁰ Another occurred a few months later, “GOING NORTH- Lazarus Long, Elijah Person, and J. Phillips, workmen at the Tredegar Iron Works, were arrested on Saturday, while trying to escape to the enemy’s lines. They were committed to Castle Thunder, that common receptacle of the vicious, the disloyal and the suspected.”¹⁵¹

The Confederate government’s use of free labor from the Tredegar forced the foundry to hire more workers, likely in the form of slave labor during those months in 1864. With the state of the Confederacy vastly different from a year prior, the Tredegar would have had difficulty supplying its workers (slave or not) with food and clothing and since slave’s families did not live at the foundry, this would have made things easier on Tredegar management.

News of General Grant’s advances towards Richmond and General Sherman’s march across the South later in 1864 caused feelings of uncertainty among Tredegar’s workers, both slave and free, so news of desertion or escape was more commonplace. In March 1864,

¹⁴⁸ *Ibid.* 246

¹⁴⁹ *Ibid.* 247

¹⁵⁰ *The Richmond Whig*, July 9, 1864. Accessed November 2014.

http://www.mdgorman.com/Written_Accounts/Whig/1864/richmond_whig_7_9_1864.htm.

¹⁵¹ *The Richmond Sentinel*, November 14, 1864. Accessed November 2014.

http://www.mdgorman.com/Written_Accounts/Sentinel/1864/richmond_sentinel_11_14_1864.htm.

Confederate pickets outside of Richmond caught John Yaker, a member of the Tredegar battalion and a well-paid smith employed in ordnance manufacturing. Due to his value to the foundry, CS authorities decided against court-martial and returned him to the Tredegar.¹⁵² Charles Dew notes, “Yaker’s wages, among the highest earned at the works, were insufficient to induce him to stay voluntarily.”¹⁵³

By that time during the war the Tredegar management was having a more difficult time than ever acquiring the raw materials necessary for production, and thus cutting into Anderson and the foundry’s profits. Here one gets a glimpse of Anderson’s late-war loyalties. Early in the war (and even in the months prior) Anderson was an avid supporter of the Confederacy, even to the point of leaving his beloved foundry and serving in CS armed service in the position of General. In the three years thereafter, the Confederacy had suffered great losses on the battlefield, the city had been under almost constant threat by Union armies and raiders alike, the city had seen long winters, civil disorder, and general panic. In short, the Richmond of late 1864 was not the cheerful, patriotic city that it had been in the spring of 1861. By 1864, Joseph Anderson had been affiliated with the Tredegar Iron Works (to some degree) for over twenty years, and during that time had built it into the South’s most advanced iron foundry. Anderson wanted to remain at the head of his foundry, even after the CS was gone. Towards the end of the summer in 1864, Anderson and his Tredegar partners purchased an iron steamboat, the *Coquette*, with the intention of utilizing her to run the Union naval blockade and sell cotton (from Anderson’s cotton prospects further South). The *Coquette* made many successful runs in and out of Confederate ports between September 1864 and January 1865, when she was disabled by engine trouble in Nassau where she stayed until the end of the war. It is interesting to note that

¹⁵² Dew, *Ironmaker to the Confederacy*, Tredegar Payroll, Anderson and Co. to J.H. Winder letter, March 8, 1864, 242-243

¹⁵³ *Ibid.* 243

Anderson viewed the *Coquette* (and blockade running) as a profit-making venture and not as an attempt to retool or resupply the foundry with much-needed raw materials. By the second half of 1864 Anderson realized that the Confederacy's days were limited and that Union victory was imminent and faced with this fact, wanted to bankroll as much money as he could before the collapse of the CS government.¹⁵⁴ Dew notes that,

The Tredegar's cotton and blockade-running activities were clearly attempts to place a sizeable portion of the company's assets beyond the reach of both Southern inflation and the Northern invaders. Anderson still made every effort to keep Tredegar output at the highest possible levels during the last two years of the war. But it was comforting to know that he had an insurance policy, in the form of a sterling account in London, against a possible Confederate financial or military collapse.¹⁵⁵

By early 1865, with the Union army laying siege to the city, Richmond's future looked bleaker than ever. As a result, Anderson was having difficulty keeping workers in his mines and furnaces outside of Richmond, in addition to having his Tredegar Battalion called out to help defend the city. There were some workers that Anderson was willing to relinquish to help defend the city, while others he fought to keep. In a letter to Lieutenant W.N. Blackfords, Anderson wrote,

We desire to turn over to the service, the following conscripts, who are now detailed for service at this establishment.

| | |
|--------------------|-------------------|
| Laeh McGruder } | of Dover Mines in |
| Chiastain Womack } | Goochland County |

| | |
|-------------------|-------------|
| Robert Williams } | of Richmond |
| Charles Brown } | |

The two first named men can be found at or near our Dover Coal Mines on the canal, 17 miles from the City.

Williams is working in the machine shop here and Charles Brown can be found at his fathers residence on Main St. between 17th and 18th over Wm Taylor's grocery store.¹⁵⁶

¹⁵⁴ Dew, *Ironmaker to the Confederacy*, 204-209

¹⁵⁵ *Ibid.* 289

¹⁵⁶ Tredegar Letterbooks, Anderson to Blackfords, January 31, 1865

Surely Anderson knew how dire the city's situation was and was willing to release certain workers for Confederate service while, at times, fighting to retain others, as a week later a CS officer near another one of Anderson's mines stirred Anderson to action. In a letter to Confederate General Kemper, Anderson wrote,

We have this morning a communication from our manager of Tuckahoe Mines- Mr. J.T. Jones- stating that on yesterday he was called upon by an quarrelling officer who claimed to have orders from you to conscribe and forward to Richmond to be used in the public defence, all the free Negroes, a few of the slaves, employed at that place, and we suppose a similar demand will be made upon the manager of Dover mines, in Goochland, in the same vicinity.

We are satisfied that it is only necessary to call your attention to this matter, to ensure the exemption of these men, as the importance of keeping this establishment in operation and of increasing the supply of coal in the community is too apparent to need any comment.¹⁵⁷

Anderson's documented correspondence ends in mid-February and by the end of the winter, the Confederate Congress seriously considered arming slaves, as slaves were starting to be viewed by many in the government as the only way remaining to replenish Lee's heavily diminished ranks defending Richmond. On March 23, 1865, a Confederate law authorizing the enlistment of black soldiers went into effect.

The Congress of the Confederate States of America do enact that, in order to provide additional forces to repel invasion, maintain the rightful possession of the Confederate states, secure their independence, and preserve their institutions, the President be, and he is hereby, authorized to ask for and accept from the owners of slaves, the services of such number of able-bodied negro men as he may deem expedient, for and during the war, to perform military service in whatever capacity he may direct.¹⁵⁸

Around this same time, Joseph Anderson, realizing that he could be requested to allow slaves employed at the foundry to be drafted into CS service, petitioned the government to take over

¹⁵⁷ Tredegar Letterbooks, Anderson to Kemper letter, February 7, 1865

¹⁵⁸ General S. Cooper, General Orders No. 14, March 23, 1865, "Confederate Law Authorizing the Enlistment of Black Soldiers, as Promulgated in a Military Order," Freedmen & Southern Society Project. Accessed December 2014. <http://www.freedmen.umd.edu/csenlist.htm>.

and manage his foundry for the duration of the war, which the government declined.¹⁵⁹ The opening months of 1865 saw a further drop in Tredegar output.

The Tredegar delivered sixteen pieces of field artillery, a number of light coehorn mortars, and twenty-one siege and seacoast weapons during the first three months of 1865. Founders had cast most of these pieces in 1864, some as far back as April. The gun mill finished only two of the thirty-five cannon cast in January, February, and March. By the end of March, the shortage of iron had brought the works to a complete stop.¹⁶⁰

By the first week of April, the CS government had begun to evacuate the city. When looting broke out, Anderson grew concerned that his foundry would be looted or destroyed so he called on members of the Tredegar Battalion to help secure its safety. “Loyal members of the Tredegar Battalion answered his call for aid, loaded their muskets, and took up positions around the works. This action saved the Tredegar.”¹⁶¹ Those “loyal members” of the Battalion were surely local individuals as those who mustered to the foundry’s defense would have felt a connection with either the Tredegar itself or for Anderson amid the chaos that descended on the city in those first days of April.

For the entirety of the war, Anderson had attempted to serve the Confederacy, both in the field and at his foundry. By April 1865, all of that would have seemed for naught in lieu of a personal meeting with President Lincoln in hopes of post-war leniency. Immediately after the fall of Richmond, Anderson began to reestablish himself as a successful businessman and seek favor in the eyes of the Union and was granted a pardon by President Andrew Johnson later that year. By the end of the year, the foundry would be back in operation again, largely due to the fact that it did not sustain the damage or destruction that other establishments in the same area did that first week of April. The Tredegar Iron Works would exist as a foundry until 1957, nearly one hundred years after those disastrous days in April 1865.

¹⁵⁹ Thomas, *The Confederate State of Richmond*, 189

¹⁶⁰ Dew, *Ironmaker to the Confederacy*, Tredegar Gun Foundry Book, 285

¹⁶¹ *Ibid.* 286

CHAPTER THREE: CONCLUSION

The workers at both facilities would have seen the end of the war and the fall of Richmond very differently. Armory workers would have already have been on the move as their manufacturing equipment was in transit, while Tredegar workers would have been hanging on at the foundry in hopes of retaining a post-war job, or retaining access to what little the foundry had left in the way of supplies and shelter. This further emphasizes the contrast of “outside” Armory workers and “native” Richmonders, moving to the next best place with the Armory’s machinery with the vain hope of continuing production for the CS cause, or cautiously clinging to what was left in the city.

With the fall of Richmond, and soon thereafter, the surrender of the Confederacy, came Emancipation for slaves in the Confederate states. For the slaves working in Richmond during the Civil War, their post-Emancipation lives must have looked more promising than many others, as slaves engaged in the work of places like Tredegar possessed a skill set different from others who worked on plantations outside of the city and in the Deep South. With newfound freedom, their skills promised greater mobility and an income that they could depend on following the war.

The period between 1861 and 1865 took a heavy toll on the city of Richmond. Many lives were shattered and forever changed by the events of the Civil War. Many of the buildings and businesses that stood and thrived in the city during the antebellum period were gone forever by April 1865. Some existed specifically for the purpose of war while others were utilized for Confederate service for the duration of the war. The Richmond Armory and the Tredegar Iron

Works fall into both of these categories. To understand where the Richmond Armory fits into the larger Confederate scheme of arsenals, one has to consider the entire picture. The only facility other than the Armory that existed in the CSA that could come reasonably close to CS Richmond's output was the CS Armory in Fayetteville, North Carolina. The Armory in Fayetteville had been a Federal Armory prior to the outbreak of war (like Harpers Ferry) but had been utilized as more of a storage facility (Arsenal) when compared to other Armories located further North. Wartime output at Fayetteville was about 400 firearms per month, less than that of Richmond.¹⁶² Although formerly a US government armory, Fayetteville did not enjoy the access to raw materials via waterway like the James River as the Richmond Armory did. As capital of the CSA, Richmond was an optimal place for James Burton to establish a CS Armory in comparison to placing his Harpers Ferry resources further South in North Carolina where he would have to rely more heavily on rails than water, and move finished products further to the front lines. Additionally, since Fayetteville was used more as an Arsenal prior to the war, it would seem sensible to use it as a factory to modernize, rebuild, refit, or repair existing arms (perhaps already stored there), than to install and employ significant numbers of machines and workers, as compared to the Armory in Richmond.

There were numerous other arms making facilities throughout the Confederacy but these were mainly small shops or armories that did not have access to the raw materials, technologies, or labor that armories like Richmond did, and whose wartime production numbered in the hundreds, rather than thousands. This is largely due to the availability (or lack thereof) of manufacturing equipment, or skilled workers, versed in the then-new machinery being utilized in more advance manufactories. Another logistical concern was uniformity. With small manufactories scattered throughout the Confederacy, the consistency and availability of parts and

¹⁶² Albaugh and Simmons, *Confederate Arms*, 218-219

ammunition was also problematic. Considering this, CS officials tended to favor the larger (and more uniform) armories like Richmond and Fayetteville and government resources were sent there, rather than other places.

The Richmond Armory was established during the war and for the war. It was never engaged in the commercial sale of sporting arms to the general population or foreign governments. Manufacturing processes were implemented almost immediately (or as soon as viably possible) and weapons were in the hands of Confederate soldiers by the end of the first year of the war. Many of the workers appear to have been placed in the Armory by order of Col. James Burton, who likely knew many of them by way of his years in Jefferson County, Virginia, prior to the outbreak of the war. The Armory workers seemed to be mostly from the Harpers Ferry Armory, where, as a US government arsenal, they would have been familiar with the contemporary manufacturing techniques of the era. Burton knew this and placed them in similar positions at his “new” CS Armory. They were there for the expressed purpose of building rifles and ammunition for the CS Army and not engaged in the manufacture of any other type of material. In the closing months of the war, production at the armory stopped and when the war was over, the Armory ceased to be. It is important to note that the Richmond Armory does not appear to have contracted any slave labor during its existence, due largely to the fact that it was a much smaller operation compared to Tredegar and also the fact that its products were much more narrowly-focused than the foundry. The fact that it did not utilize slave labor also seems to make it appear more of a foreign entity within the city, as many facilities in Richmond exploited slave labor (not simply Tredegar).

The Armory was connected to Richmond only in place and name. The arms-making technology housed at Harpers Ferry until 1861 was state-of-the-art, especially in the South and

upon its relocation to Richmond, the individuals that had been trained in its use were relocated there as well. Had the Harpers Ferry equipment been moved to Richmond with no experienced workers to operate it, it likely would have sat idle or else been under-utilized as the city's resident gunsmiths would have had limited skills to work such machinery. Importing the skilled labor alongside the machinery was the most efficient way to begin and sustain production at the Confederacy's largest armory. While there were certainly workers at Harpers Ferry that decided to remain loyal to the Union and hence traveled North, there were many whose sympathies lay with the South and their skills were put to use at the Armory and those workers who James Burton knew personally prior to 1861 were just such men, mostly from Jefferson County, Virginia and the surrounding area. The Richmond Armory and its three and a half year existence was largely made up of non- Richmonders, using Northern manufactured equipment, and overseen by CS government officials- Richmond only in place and name. Nothing of the Richmond Armory exists today as much of it was destroyed in April 1865 and what little was left was razed soon thereafter. Historians pay scant attention to the Armory in the larger context of the Civil War, while arms aficionados clamor for their wallets on the rare occasion that they are fortunate enough to encounter original rifles that came out of the Richmond Armory. While it is generally received as a book on firearms, Paul Davies, *CS Richmond* is really the only work available on the Richmond Armory and it was only published in 2000. The Armory was a Confederate institution, in the city of Richmond, that exists largely in the memory of historians and arms collectors. It does not loom largely in the modern context of Richmond.

Tredegar Iron Works, on the other hand, had been in existence twenty years prior to the outbreak of the Civil War and by 1861 was a Richmond institution, owned by a local Richmonder and employing local workers in various capacities. While often looked to for

support, in the capacity of work retention and securing of materials, the CS government did not own or control the Tredegar, although Anderson appealed to the government that it do so towards the end of the war. Also, as a Richmonder, Anderson appeared to be hedging his bets with the Union towards the end of the war as he foresaw a defeated Confederacy. It can be argued that Anderson saw himself as a Richmonder first and Confederate second as he was making plans to secure his (and his foundry's) future in the closing days of the war. Had the foundry been largely controlled and worked by non-Richmonders it is very likely that it would have been evacuated and burned as with so much of the city's riverside real estate in April 1865. The foundry was not only a city institution prior to the Civil War but it also engaged in the manufacture of iron products, not simply weapons of war so there was more of a general necessity for the foundry's products when compared to the Armory, whose entire operation occurred during the Civil War and its implements were built exclusively for the war. Also, Tredegar's use of slave labor, while necessary to its wartime production, would have also been necessary for a significant number of slave owners, who, fearing that their slaves may attempt to escape, or when lacking the money or food to take care of their slaves, would have seen Anderson's foundry as a welcome alternative, and source of income during the war. Tredegar was a familiar entity to the people of Richmond and the surrounding areas prior to and during the Civil War. Additionally, the sheer number of people employed at the Tredegar Iron Works as compared to the Richmond Armory, connected it with the city if by no other reason than the numbers (thousands when compared to a few hundred). The percentage of foundry workers living in the city prior to the war was much higher alongside that of the Armory, whose skilled labor was "imported" from other places.

These establishments differed in size, in labor, in output, and in ownership, the only real similarities they shared were in place and time. It is important to understand this as the preexisting information on the Armory or the Tredegar is either in-depth and provides little or no context as to their subject's connection to Richmond, or they widely focus on the city, with passing mention of these facilities with regards to the Civil War and their contributions to the larger Confederacy. The Armory was a Confederate entity injected into Richmond, as James Burton and his Harpers Ferry skilled labor suggests, while the Tredegar was Richmond within the Confederacy, evidenced by the large numbers of Richmond workers in the Tredegar Battalion, the city's agents who hired out slave labor from around the city, and the few loyal workers who defended the foundry in those fiery, chaotic days in April 1865. The Tredegar ceased to be in 1957 and stands today as a Civil War Center, offering insight and information to Richmonders and tourists alike on the foundry's contributions to Confederate Richmond. Visitors are able to walk through the same rooms that foundry workers did years before and if one desires, portions of the old foundry can also be reserved for parties and weddings. It is curious that, although the Civil War ended nearly one hundred and fifty years ago, and that the Tredegar closed its doors over fifty years ago, it still exists on the Richmond landscape today. While long defunct, the Tredegar Iron Works was, and still is, a Richmond institution, while the Richmond Armory lingers in obscurity.

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